

Transport 2020

**Environmental Impact Statement
and New Starts Application**

Request to Initiate Preliminary Engineering

June 2008



Date

Ms. Marisol Simon
Regional Administrator
Federal Transit Administration, Region 5
200 West Adams Street
Suite 320
Chicago, IL 60606

Re: Request to Initiate Preliminary Engineering: Transport 2020

Dear Ms. Simon:

The City of Madison, Dane County, and the Wisconsin Department of Transportation (WisDOT) are pleased to submit for your review and approval this request to initiate preliminary engineering (PE) for the proposed Transport 2020 project. The City, County, and WisDOT comprise an Intergovernmental Partnership responsible for the planning and development of transportation improvements in the Transport 2020 corridor connecting the City of Middleton, the University of Wisconsin campus, downtown Madison, and the area located just west of Sun Prairie. The City has acted as project manager for this phase of study.

The purpose for implementing the Transport 2020 Locally Preferred Alternative is to improve the region's transportation system in anticipation of rapid population growth in Dane County. Dane County continues to grow rapidly, having added more new residents since the 2000 U.S. Census than any other Wisconsin county. In fact, Dane County has added twice as many residents as Waukesha County, the county with the second most new residents added since 2000. The Transport 2020 project consists of light diesel multiple unit (DMU) or hybrid commuter rail vehicles operating in the existing rail corridor running from the Highway 12/14 interchange in Middleton, through the Isthmus, to Reiner Road near Sun Prairie. The project is designed to serve many of metropolitan Madison's major employment, entertainment and shopping destinations, and complements the existing bus system. It includes 17 stations along a 16-mile alignment. In order to provide cost effective and frequent service in Madison's core, trains will operate on two overlapping routes, identified as the east branch and the west branch. The east branch operates from Reiner Road near Sun Prairie, through downtown Madison, to the Whitney Way/Hill Farms; the west branch runs from Middleton to Fair Oaks east of the Isthmus.

This project will provide multimodal transit connections between residential and employment concentrations throughout the Madison region, improve mobility, and enhance transit access for all area residents and workers. It will also promote a desirable development form along the east-west travel corridor and within Dane County communities.

The project was selected following an alternatives analysis process culminating in the selection of the Transport 2020 project as the investment that best addresses transportation needs in the railroad corridor. The higher operating speeds of commuter rail over a separate right-of-way

Ms. Marisol Simon

Date

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are expected to save travel time for many regional riders, resulting in over 121,500 hours of daily travel time savings. A new regional sales tax is proposed to be used to pay for the non-Federal share of the project, with bonding by Dane County and the potential use of State funds to pay for near-term project development costs prior to implementation of the new sales tax. Rail service in the Transport 2020 corridor has significant support, as evidenced by resolutions of the Dane County Board of Supervisors, City of Madison Common Council, the Madison Area Transportation Planning Board (MPO), and the elected bodies of the City of Middleton and the Village of Shorewood Hills. These resolutions demonstrate strong local government support for the expansion of multi-modal public transit in the Madison Metropolitan area, the adoption of state legislation that will enable the formation of the Regional Transportation Authority (RTA), and the implementation of a half-cent regional sales tax for pay for transportation improvements. Other support has been expressed by business groups; economic development interests; community leaders; and numerous other agencies and organizations. The project was adopted by the Madison metropolitan planning organization on September 5, 2007.

This request is being submitted after extensive coordination with your staff at the FTA in Chicago as well as in Washington, DC. Technical methods and assumptions used to prepare the New Starts measures for Transport 2020 are in compliance with FTA's most recent guidance and New Starts reporting instructions.

The Intergovernmental Partnership is ready to proceed with the design phase of this important project to our region, and we eagerly await the FTA's review and approval for initiation of New Starts preliminary engineering. We appreciate all of the assistance and guidance that FTA's staff - particularly Stewart McKenzie in your office, and Brian Jackson, Nazrul Islam, and Jim Ryan at Headquarters - have provided on the development of this project. Their assistance has been invaluable.

If you have any questions regarding this submittal, or about the Transport 2020 project, please do not hesitate to contact David Trowbridge, Transport 2020 Project Manager and representative of the Intergovernmental Partnership (direct: 608-267-1148).

Sincerely,

Dave Cieslewicz, Mayor
City of Madison

Kathleen Falk, County Executive
Dane County

Frank Busalacchi, Secretary
Wisconsin Department of
Transportation

cc: Marisol Simon, Regional Administrator, Region 5

Enclosure

Previously Submitted Materials

The following materials were previously submitted to the FTA for review, as part of the alternatives analysis phase of work on Transport 2020.

Scoping Report	June 30, 2006
Travel Demand Model Assumptions Memorandum	May 31, 2007
Justification for Annualization Factor	May 31, 2007
Summit Results and Maps (hard and electronic copies)	May 31, 2007/October 2, 2007
Baseline Alternative Definition Memorandum	October 2, 2007
Purpose and Need Statement	October 2, 2007
Alternatives Considered/Evaluation of Alternatives	October 2, 2007
Cost Tables Used in O&M Computation	October 2, 2007/March 18, 2008
Project Management Plan	March 18, 2008

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1.0 Project Background

1.0 Project Background

This section provides a general description of the Transport 2020 Project and sets forth the “Making the Case” narrative. The narrative includes a summary of the purpose and need for the project and a discussion of the benefits of this capital investment priority in the Madison/Dane County area.

Section 1.0 is organized as follows:

- 1.1 Transport 2020 Project Description;
- 1.2 Baseline Alternative;
- 1.3 Project Development Status; and
- 1.4 Making the Case for Transport 2020.
- 1.5 Uncertainties; and
- 1.6 Summary

■ 1.1 Transport 2020 Project Description

The long-term transportation system vision proposed in Transport 2020 is a multi-modal system consisting of commuter rail, express bus services, park-and-ride lots, and improvements to local bus service. This “Full System” transit vision will represent significant progress toward meeting the regional transportation, economic development, and growth management goals established at the outset of the Transport 2020 project and goals that also are reflected in the adopted plans of Dane County communities.

The first piece of this long-term transit vision to move forward is the Locally Preferred Alternative (LPA) selected in May 2007 by the Implementation Task Force, made up of City of Madison, Dane County, state, university, Madison Area Metropolitan Planning Organization (MPO) and community representatives, emerged from a comprehensive planning process and alternatives analysis. The following are key elements of the LPA:

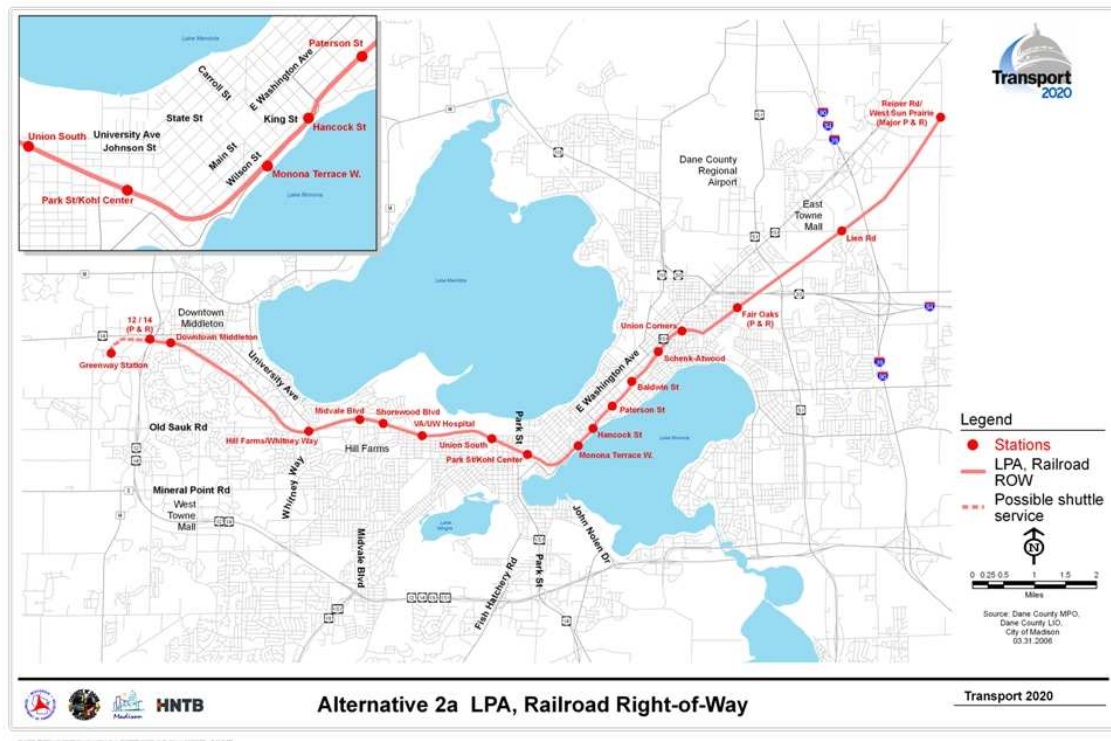
- Approximately 16-mile commuter rail line operating within an existing freight rail corridor between the City of Middleton and an area just southwest of the City of Sun Prairie, directly through the Isthmus of the City of Madison. This Start-Up System project is the first phase of an integrated multi-modal transit system for Madison and Dane County, and extensions of this system to serve many communities in Dane County are anticipated over time. Extensions of this system could serve a number of cities and villages in Dane County - including Fitchburg, McFarland, Stoughton,

Oregon, Verona, Cottage Grove, DeForest, Waunakee, Cross Plains, Black Earth and Mazomanie. In addition, a short near-term extension to the north could provide direct service to the Dane County Regional Airport (which would also provide a direct linkage to future high speed intercity passenger rail service at that location).

- New regional express bus service to numerous Dane County communities and improved local bus services to supplement and feed the rail service.
- 17 stations, including from west to east:
 - Two in Middleton: one at the intersection of Highways 12 and 14 and the other in the Middleton CBD.
 - Three in the Hill Farms subarea, located just west of the University of Wisconsin: one at Whitney Way, one near the railroad intersection with Midvale Boulevard, and one at the railroad intersection with Shorewood Boulevard.
 - Three in the University area: one at the University of Wisconsin and Veterans' Administration Hospitals, one at Union South, and one serving the Kohl Center.
 - Three in the Capitol area: one at Monona Terrace, one at Hancock Street, and one at the railroad intersection with Paterson Street.
 - Three in the East Isthmus Opportunity subarea: one at Baldwin Street, one in the heart of the Schenk-Atwood neighborhood near Second Street and Winnebago Streets, and one at Union Corners.
 - Three in the East Town subarea: one at the railroad intersection with Fair Oaks Avenue, one on Lien Road near the East Towne shopping mall, and one at the Reiner Road intersection north of Nelson Road.
- Four park-and-ride lots at: Highway 12/14; Whitney Way/Hill Farms; Fair Oaks; and Reiner Road
- Level of service:
 - Service provided in both directions during all weekday time periods;
 - 20 minute peak headways;
 - 70 weekday trains;
 - Average operating speed of 23-26 miles per hour.
- Diesel-multiple-unit cars ("DMUs" or self-propelled coaches) or new hybrid technology commuter rail vehicles.

A map of the project is provided in Figure 1.1.

Figure 1.1 Transport 2020 Project



1.2 Baseline Alternative

The Baseline Alternative for the Transport 2020 project includes improvements that increase the attractiveness of existing bus services operated throughout the corridor and Madison metropolitan area. Madison Metro operates an expansive and well-utilized system in the corridor that would be enhanced with bus rapid transit (BRT) elements, as described below. This alternative represents a level of capital investment that is greater than the No-Build Alternative but substantially less than the Transport 2020 LPA or other build alternatives considered.

The Baseline Alternative includes a Transit Priority Corridor between Whitney Way and North Street/Milwaukee Street along University Avenue, Campus Drive, West Johnson Street, State Street, and East Washington Street through Capitol Square. This corridor removes on-street parking where it exists now or utilizes existing diamond lanes for use by buses. Some portions of the Transit Priority Corridor have buses operating mixed traffic due to street right of way constraints. Existing auto travel lanes are not converted for bus use in the Baseline Alternative.

To the west of the Campus Drive/University Avenue intersection and to the east of North/Milwaukee Street, buses would operate in mixed traffic. This Transit Priority Corridor is aligned with the east-west Transit Market Area identified for analysis in the Transport 2020 study, contains the heaviest concentration of overlapping bus routes, and enjoys the highest service levels in the Metro transit system.

The Baseline Alternative is projected to have limited benefits to transit riders, a direct consequence of the heavy traffic congestion that would limit the speeds of buses operating in the corridor. The low cost TSM approach, with a significant portion of the service running on essentially the same congested highways that riders are attempting to bypass, would provide an ineffective response to anticipated mobility problems in the corridor. Even with improvements to create a bus priority lane in parts of the corridor, where feasible, the travel time performance of the Baseline Alternative does not match that of the LPA.

Features of the Transit Priority Corridor include:

- **Branded Transit Service** – A branded bus service using vehicles with BRT elements will provide frequent service every 15 minutes throughout the day in each direction between a proposed park-and-ride facility near the interchange of University Avenue and US-12/14 in Middleton and an expanded park-and-ride at the American Center near the interchange of East Washington Avenue and I-90. The route will use 60-foot articulated low-floor diesel-electric hybrid vehicles with special paint schemes, onboard passenger information systems, and upgraded finishes to distinguish them from others in the Metro Transit fleet.
- **Traffic Signal Priority.** Conditional traffic signal priority will be implemented at all feasible intersections in the Transit Priority Corridor. Conditional priority gives extra green time to buses that have significant passenger loads and are running behind schedule as a means to manage headways between vehicles.
- **Bus Lanes.** Curbside bus and right turn lanes will be implemented where feasible throughout the Transit Priority Corridor. The majority of bus lane length is expected to consist of marked curbside diamond lanes in which right-turning traffic is allowed, but through traffic is restricted.
- **Enhanced Transit Stops.** Bus stops will be consolidated such that the average station spacing is between one-third and one-half mile. Express routes will skip some of these stops to serve only major activity centers.
- **Real-time Passenger Information.** Enhanced transit stops will also offer real-time schedule information and customer alerts. The branded route also will offer on-board passenger information, including automated next stop announcements.

■ 1.3 Project Development Status

Planning for improvements in the Transport 2020 corridor date back well over a decade. Most significantly, in 1997 the *Vision 2020 Dane County Land Use and Transportation Plan* recognized that without improving transit, regional growth would affect mobility for Dane County residents, students, and workers. The plan recommended implementing a “balanced” transportation system to “increase reliance on transit...This is especially the case for work trips to central Madison during the peak hours and for school trips. This reduces the demand on the roadway network in terms of congestion and roadway capacity and provides mobility choices for those who wish to use other modes rather than an automobile or who do not have access to an automobile.”¹ Based on those findings, a next phase of study was initiated, culminating in a proposed integrated multi-modal system for Dane County. The key elements of that system include improving commuter transit service between outlying population centers and the Isthmus, establishing opportunities for park-and-ride transit services into the downtown area, and developing alternatives to all-day commuter parking downtown and at the UW-Madison campus.

Focus was then placed on the first phase of that more expansive transit system. The Transport 2020 LPA was selected following consideration of previous study findings and an alternatives analysis. An LPA was selected in May 2007 and is now the subject of a Draft Environmental Impact Statement, anticipated to be completed in 2008.

■ 1.4 Making the Case

The Setting

The City of Madison, the state Capitol of Wisconsin, is home to significant regional and statewide government, education, employment and cultural resources that attract both local and regional residents and visitors on a daily basis. Besides the State Capitol and government offices, the city is home to the University of Wisconsin-Madison (the nation’s top public research university in total dollars), three major regional health care facilities, a new convention facility, and major cultural facilities. Additionally, the area is one of the top three tourist destinations for the state. The city, along with many of these facilities is uniquely situated on a narrow isthmus of land between lakes Mendota and Monona. Two primary arterial roadways serve as the east-west connection through the Isthmus; University Avenue on the west and East Washington Avenue on the east. An existing, but lightly used freight rail corridor runs roughly parallel with these two roadways through

¹ Dane County Regional Planning Commission, “Vision 2020 Dane County Land Use and Transportation Plan Summary,” 1997, p. 42.

the Isthmus. The proposed project and the roadway network in the study area is shown above in Figure 1.1.

A planned regional land use strategy adopted in the 1970s has concentrated growth in the central area and existing suburban communities rather than in dispersed subdivisions. Civic re-investment has resulted in a vibrant urban fabric that consistently results in high ratings for the city and region in major national listings on quality of life.

Purpose

Current Conditions

According to an August 2007 Wisconsin Department of Administration report, Dane County has added more new residents since the 2000 U.S. Census than any other Wisconsin county. In fact, Dane County has added twice as many residents as Waukesha County, the county with the second most new residents added since 2000. As of 2002 (the modeling base year), there were just over 400,000 residents and 285,000 jobs in Dane County. In addition, residential growth in Dane County since the 2000 Census is outpacing current projections. Dane County has added 50,000 additional residents here since that time, and has a 2007 population of 476,000.

Many of these residents commute daily to jobs located along the Transport 2020 east-west travel corridor. A majority of residents in most communities outside Madison commute to Madison for employment. In addition, lower housing prices in communities outside of Dane County have created more commuters and longer commute times into Madison (real estate sales figures from 2006 show Dane County home prices at 25 to 40 percent higher than surrounding counties). In fact, the number of employees commuting to Dane County from surrounding counties has nearly doubled during the 10-year period 1990-2000, growing from 16,000 to 30,000, a trend that is expected to continue

The Transport 2020 study area contains the majority of the region's activity centers, representing 80 percent of the employment and two-thirds of the population in Dane County. The major destination for Isthmus trips is the University of Wisconsin (UW)-Madison Campus. The adopted campus plans call for no additional parking spaces on campus while envisioning continued growth in academic and research facilities. In fact, the campus land is too valuable as an investment in potential facilities for it to permit parking growth. Further, travel demand forecasts show that riders at the three UW area stations would be significant users of the proposed commuter rail system, with over 3,300 daily boardings in 2030 and half of these at the Union South station. Thus, improved regional transit is a requirement for the campus' future growth. The university is also the region's major economic engine, and the economic success of this region is tied to the UW's success.

Currently, traffic volumes during both the a.m. and p.m. peak periods on University and East Washington avenues are congested, operating primarily at highway Level of Service (LOS) E, with some spots now operating at LOS F. University Avenue currently carries

between 50,000 and 55,000 ADT (average daily traffic) and East Washington Avenue carries between 50,000 and 60,000 ADT. Neither of these arterial roads can accommodate added physical capacity due to dense commercial and residential developments on both sides of the streets. Ongoing street improvements for capacity are limited to spot upgrades at intersections.

Due to the fact that Madison's physical geography is constrained by two lakes, alternative east-west street corridors through the study area are limited. There is no alternative corridor to University Avenue on the west side of the study area. On the east side, Williamson Street and the Johnson Street/Gorham Street one-way pair provide alternative east-west routes to East Washington Avenue. Growth on these two east side parallel arterials has increased on average 25 percent over the past 10 years indicating that growing East Washington Avenue congestion is forcing additional trips onto these corridors. Both these corridors carry traffic at or near their maximum capacity with Williamson Street operating at LOS E and Johnson Street/Gorham Street at LOS F. These alternative corridors are similarly constrained by dense development and cannot be physically expanded to meet traffic demand.

The Metro Transit system supplies a very high level of service compared to those of its peer cities, providing more than twice the revenue miles per capita than the average for its peer group. Consequently, transit ridership per capita is nearly four times the average for similarly sized urban areas. In its most recent Transit Development Plan, Metro Transit notes that Core and Commuter Routes through the study area accounted for about 60 percent of all Metro Transit trips and 73 percent of total system revenue service hours. Because of Madison's unique geography, nearly 50 percent of all weekday routes travel through Capitol Square in the heart of downtown Madison. But while transit service is high through the study area, bus service suffers from the same congestion that other traffic experiences on the limited number of arterial streets serving the area.

Anticipated Conditions in 2030

By 2030, the population of Dane County is projected to reach almost 600,000 residents (a 36 percent increase from 2000). Note that if very recent current growth trends (2000-2007) are realized, Dane County would grow to a population of 630,000 by 2030. Over that same period, employment in Dane County is projected to increase to be 382,000 workers (an increase of 34 percent). Nearly 70 percent of the forecasted growth in jobs is expected to occur in the area served by the Transport 2020 project.

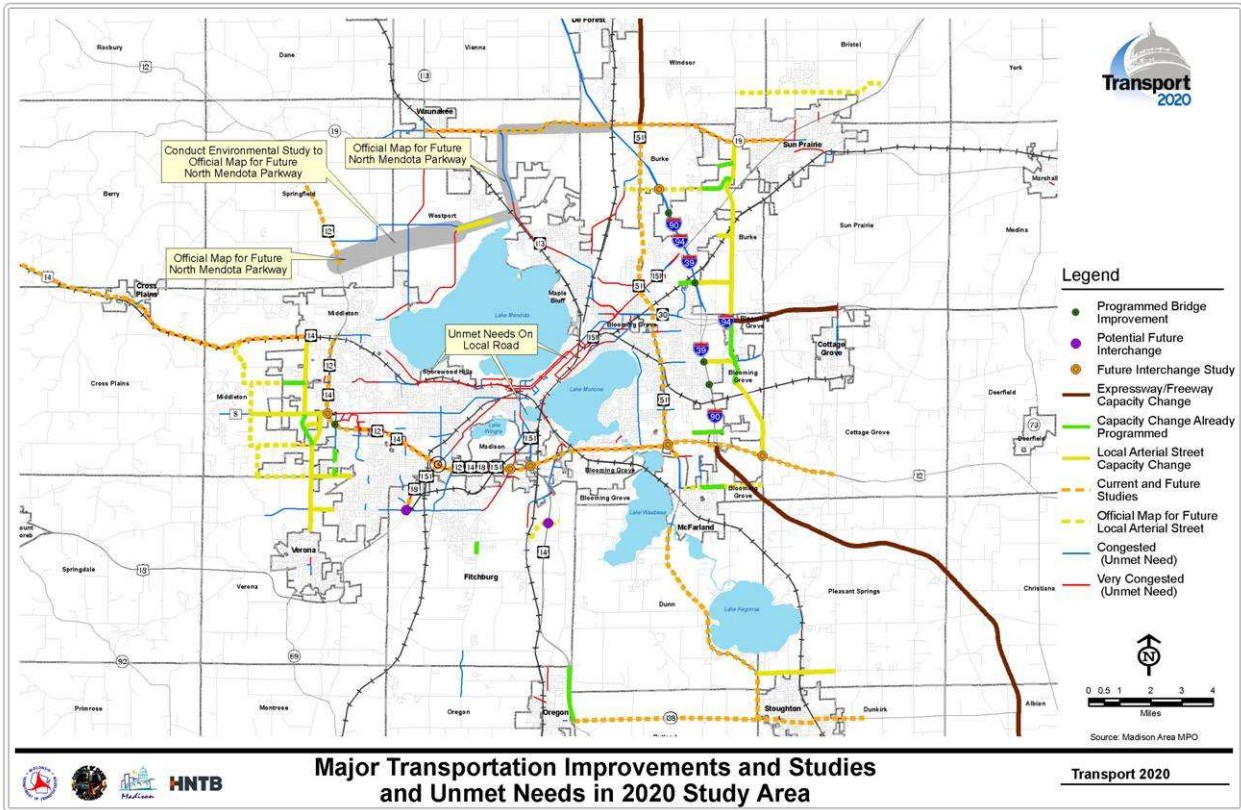
The Madison Area Metropolitan Planning Organization (Madison Area MPO) projected that in 2030, 48 percent of the labor force will reside in the City of Madison, but that the City of Madison will account for 64 percent of the employment in the County.

Congested roadways will make the Transport 2020 system an attractive option for many of these commuters, given the reliable, consistent nature of the rail service. Figure 1.2 shows the most severely congested roadway corridors in the year 2030 in Dane County, with the east-west travel corridor directly adjacent to the Transport 2020 service corridor.

Traffic projections for 2030 indicate that the entire length of University Avenue and about 85 percent of the length of East Washington Avenue will operate at LOS F during peak periods. Similarly, the parallel streets of Williamson Street and the Johnson Street/Gorham Street one-way pair will all operate at LOS F.

Future traffic congestion is particularly marked at intersections where traffic queues and delays will increase. For example, during the a.m. and p.m. peak hours, traffic delays at the intersections of John Nolen/Williamson Drive, Old Middleton Road/Whitney Way and University Avenue/University Bay Drive are projected to exceed two minutes, which translates into LOS F operating conditions. This delay is an increase of roughly one to six minutes more than existing conditions at each intersection. Another intersection reviewed during the alternatives analysis, Broom Street/John Nolen Drive, is also expected to fail during the a.m. peak in 2030, when intersection delay more than doubles. Thus, an auto trip in the corridor between Hill Farms and Reiner Road that currently take about 16.5 minute, with increase to 25.4 minutes in the year 2030, nearly a 50 percent increase. Additional travel time data will be obtained with a planned survey in the spring of 2008.

Figure 1.2 Congested Conditions in the Transport 2020 Corridor



The addition of new roadway capacity along the Isthmus corridor has been determined to be financially infeasible, due primarily to the very high cost of adding roadway capacity and the resulting destruction of existing neighborhoods. Therefore, alternative investments are required to maintain mobility through and quality of life in Dane County's densest employment and population center. Improved transit investment is a major component of the regional growth management strategy for Madison and Dane County.

The Case for the Transport 2020 Locally Preferred Alternative (LPA)

In recommending the LPA, analysis was done to evaluate other transit options including the Transportation Systems Management (TSM) or Baseline alternative. The Baseline option is a lower-cost approach that would introduce a new branded express bus service along East Washington Avenue (to the east) and University Avenue/Johnson Street (to the west). Proposed improvements in the Baseline alternative as described above in Section 1.2 include introduction of a branded route through the Isthmus with BRT elements, expanded use of designated bus lanes and limited-stop services, minor intersection and

roadway geometric improvements, curb extensions, and traffic signal priority. Due to right-of-way constraints, buses would operate in mixed traffic to the west of the Campus Drive/University Avenue intersection and to the east of North/Milwaukee Street on East Washington Avenue.

The Baseline alternative is projected to have limited benefits to transit riders, a direct consequence of the heavy traffic congestion that would limit the speeds of buses operating in the corridor. The low cost TSM approach, with a significant portion of the service running on essentially the same congested highways that riders are attempting to bypass, would provide an ineffective response to anticipated mobility problems in the corridor. Even with improvements to create a bus priority lane in parts of the corridor where feasible, the travel time performance of the Baseline Alternative does not match that of the LPA.

The proposed Transport 2020 LPA would provide significantly better transit options in the corridor and generate substantially higher mobility benefits than the Baseline alternative. Rail service will have a travel speed of 23-26 miles per hour, which includes stops; this is comparable to auto travel speeds today during peak periods. In addition, a major advantage of the commuter rail option is the fact that Transport 2020 LPA speeds/travel times will be the same on opening day as they will in 50 years (even though that is beyond the typical planning horizon for such projects).

In response to the substantial service improvements provided by the Transport 2020 LPA, ridership from the corridor is projected to be 11,000 riders per day in 2030 for work trips, or three million annually (including projected special event trips).

Overall, the proposed Transport 2020 service is projected to save riders 3,180 hours each day. Nearly 73% percent of the modeled user benefits are for the Home-Based Work trip purpose.

The capital cost of the project is estimated at \$252.2 million in current year dollars. Compared to a \$44.3 million capital cost for the Baseline alternative², the added capital costs of the LPA are approximately \$15.3 million per year over the life of the project. With the added costs of operating and maintaining transit services, the proposed project would cost roughly \$27.9 million per year. The projected time savings of 3,180 hours per day in 2030 translates into 826,800 hours per year. Overall, the ratio of incremental annualized cost per annualized user benefits is estimated to be \$26.70 per hour for the project.

The Transport 2020 system will also help encourage new development to locate along the rail corridor, especially at station locations. A market study conducted during the

² Note: The Baseline bus alternative does not include the construction of new fixed-guideway bus travel lanes, as is common with bus-rapid transit (BRT) systems. The estimated capital cost of constructing additional lanes for a BRT system in the Baseline service corridor is approximately \$192 million.

alternatives analysis found that investment in rail transit could translate into a 10 percent greater increase in households and over a 200 percent increase in employment.

■ 1.5 Uncertainties

Cost Uncertainties

As with any major capital project, the Transport 2020 project must identify and address uncertainties as it moves forward to implementation. Every effort has been made to plan for cost increases, especially the commodities such as steel and concrete which make up about 40 percent of the hard construction costs. The well-defined project footprint will serve to mitigate the uncertainty of actual commodity needs. While rising commodity prices or a smaller pool of possible construction bidders could raise the price for construction of the Transport 2020 investment, a total contingency of 24 percent totaling \$47.4 million should be able to account for any cost increases.

Other cost uncertainties, such as for right-of-way, are mitigated by the fact that the majority of the railroad right-of-way required for the project (over 80 percent) is already owned by Wisconsin DOT.

Benefit Uncertainties

The projected success of this project depends heavily on the continuation of population and employment growth trends in Dane County and the continued mobility needs of this population. As noted, recent growth projections have confirmed the magnitude of population growth assumed for this project. The Wisconsin Department of Administration notes that Dane County has experienced the largest population growth in the state between 2000-2007; more than twice that of Waukesha County, which was second in terms of population growth.

Any significant adjustment to the expected population growth would require unforeseen developments such as a combination of redirection of development policy, an extended real estate downturn, or community opposition that could hinder business investment. This seems unlikely in the near-term, given the recent activities of the regional Collaboration Council and Regional Economic Development Entity (REDE). These entities have identified transportation and growth management as the number one challenge to ensuring regional economic competitiveness for the area, and have developed a detailed plan to achieve specific economic growth goals.

A final source of uncertainty lies with the performance of the travel demand forecasting model used to estimate Transport 2020 ridership and benefits. The model uses demonstrated responses to modes that already exist in the study area. This model has been improved to take into account the unique aspects of the Transport 2020 project and

the travel patterns in the study area, such as the high number of student transit users. The existing transit system has been showing robust ridership. The most recent data show a 14 percent increase in ridership between 2000 and 2005; and Metro Transit is enjoying its highest ridership in 20 years with 12 million passenger trips in 2006. Furthermore, 50 percent of Metro's ridership profile is choice riders, i.e., have an automobile available but choose to use transit. This robust market should ensure a market for the Transport 2020 service and a sound foundation for the ridership estimate for the proposed project.

■ 1.6 Summary

The Madison/Dane County area is a rapidly growing metropolitan area, adding the most new residents of any county in the State of Wisconsin (adding 50,000 new residents, a growth rate of 11.8 percent between 2000-2007). The growing region's transportation challenges are established by the placement of its core on an Isthmus between major lakes. The narrow Isthmus contains a grouping of concentrated destinations with many of the region's major activity centers located there. This geographic constraint, urban success, and resulting projected growth present major challenges and opportunities for regional transportation.

The Transport 2020 LPA will provide improved access to downtown Madison and the UW-Madison campus (the largest employment activity center in Dane County) from many peripheral Dane County communities. Transport 2020 LPA travel time between Union Corners and Hill Farms is expected to improve travel time by 15% compared to the Baseline alternative. The actual construction process, which involves rehabilitating and constructing new track in an existing freight rail corridor is expected to be relatively simple and both WSOR, which operates in the corridor, and WisDOT, which owns a substantial part of the corridor have been actively involved to support project implementation. Overall, the ratio of incremental annualized cost per annualized user benefits is estimated to be \$26.70 per hour for the project.

The Transport 2020 project offers an opportunity to leverage an underused transportation corridor to provide an alternative to congested roads in a geographically constrained region. This opportunity, combined with a growing population and employment base, communities with transit-supportive policies, and continued work towards a sound financial plan will serve to support a successful investment in fixed-guideway transit service that will maintain mobility in this thriving region.

2.0 Certifications of Technical Methods and Planning Assumptions

2.0 Certification of Technical Methods and Planning Assumptions

The Certification of Technical Assumptions and Planning Assumptions Template provides certification by the Intergovernmental Partnership (IGP) – established to develop the Transport 2020 project and comprised of the City of Madison, Dane County, and the Wisconsin Department of Transportation – that the technical approaches and assumptions used for purposes of this submittal were in accordance with established New Starts principles, as well as other FTA guidance and best professional practices. Dates also are provided in this template for the collection of data which support the travel forecasts.

The City of Madison will be undertaking a onboard survey to obtain current data on travel patterns and behavior. This survey will be implemented in February and March of 2008 with results compiled in April and May of 2008. The results will then be used to recalibrate the model.

As explained in more detail in Section 3.0, ridership and user benefits forecast using the current model are expected to be somewhat understated. It is expected that the new survey results will further enhance both the accuracy of the model as well as user benefits forecast for Transport 2020.

The objective of the survey analysis is to better understand the transit markets currently served. This will help validate the Madison model by better reflecting observed travel behavior by existing bus riders. Key elements of uncertainty in the current model that will be addressed in more detail with the onboard survey include the following:

- The **transferring activity** among current riders:
 - The percentage of riders who have to transfer and the average transfer rate;
 - The bus routes and the boarding/alighting points in the bus system where most of the transferring activity occurs;
 - The extent of transferring activity at each of the four Transfer Points and the Capitol Square;
 - The percentage of riders who have to transfer more than once; and
 - Differences in the transferring patterns among segments of bus riders, differences due to geography, or differences by time of day.

- The patterns of **access and egress** among current bus riders:
 - The percent of riders who drive to and those who walk to bus;
 - The areas in Madison where drive access and walk access are more prevalent;
 - Differences in access and egress mode by purpose, time of day, route, by boarding location, and at each of the Transfer Points; and
 - Patterns of access and egress mode by riders with different socioeconomic characteristics and frequency of riding the bus.
- The origin-destination **trip table** of current bus riders will help us examine the following:
 - A comparison of the shape of the table with the modeled flows;
 - Concentration of transit trips along the Transport 2020 corridor;
 - Average trip lengths and distribution of trip lengths by time of day and route;
 - Mix of transit trips by purpose and directionality by time of day; and
 - The assignment of the bus rider trip table compared against model flows.

Another activity includes the development of a **bus and highway travel time database**. Existing data from bus schedules and travel time data for buses that operate in mixed traffic in Madison will be compiled along with highway travel time data for corresponding highway segments. The analysis of these highway and bus travel times will help:

- Develop a link between bus travel times and highway travel times reflecting base-year conditions in the Madison area;
- Examine differences in travel times and speeds by time of day to assess whether the assumption of free flow speeds during the off-peak periods is realistic;
- Account for the impact of the urban environment on developing relationships between bus and highway speeds and travel times;
- Use on-time performance data from the Metro vehicle locator system to determine if any adjustments need to be made to scheduled bus travel times;
- More accurately represent the peak period and off-peak period travel times for buses in the Madison area; and
- Apply these estimated relationships in the forecast year using future-year input data to assess the bus speeds and travel times in the area.

Ridership and user benefit forecasts will be recalculated following completion of the survey collection and recalibration efforts, with revised results provided to the FTA. As noted above, these revised results may reflect higher benefits for the Transport 2020 project.

Certification of Technical Methods and Planning Assumptions

As Mayor of the City of Madison, Dane County Executive, and Secretary of the Wisconsin Department of Transportation, we collectively understand that FTA's Reporting Instructions for Section 5309 New Starts Criteria, dated May 2007, establish common conventions for the development of information on proposed New Starts projects that are crucial to the fair and evenhanded evaluation of projects. These conventions include:

1. The horizon year used for the travel forecasts is 2030.
2. The ridership forecasts are based on a single set of projections and policies consistent with the regional transportation plan and are held constant for the preparation of travel forecasts for the New Starts Baseline and New Starts Build alternatives, including:
 - land use, demographics, socio-economic characteristics, and travel patterns;
 - the highway network, except as modified for changes inherent to the Build alternative (such as the conversion of traffic lanes to transit-only rights-of-way);
 - transit service policies regarding geographic coverage, span of service, and headways, modified where necessary to integrate transit guideways into the bus system;
 - pricing policies (fares, highway tolls, and parking costs); and
 - transit capacity provided given projected transit volumes, productivity standards, and loading standards.
3. The travel models used to prepare the forecasts have been developed and tested with the best available data on current conditions in the urban area, including:
 - Highway speed data collected in the year 2008 in the Transport 2020 corridor;
 - Transit travel-time data collected in 2007 based on published schedules;
 - Home-interview/travel-diary data collected in 2001 and 2002; and
 - Transit on-board survey data collected in 2001 with additional data to be collected in 2008.
4. Except for the impacts of physical changes introduced by the alternatives themselves, the performance of the highway and transit systems is held constant between the New Starts Baseline and New Starts Build alternatives, including:
 - highway congestion levels;
 - transit operating speeds in mixed traffic; and
 - maximum access and egress distances to/from transit services, as well as representations of walking, waiting, and transfer times.
5. Transit-mode-specific constants describing the unmeasurable attributes of individual modes are either the same across all transit line-haul modes or are derived from ridership experience on existing transit modes in the metropolitan area, and have magnitudes that are within acceptable ranges as reviewed and approved by FTA.
6. Service levels in both the New Starts Baseline and New Starts Build alternatives have been adjusted to meet projected ridership levels using consistent vehicle-loading standards.
7. The forecasts of ridership and transportation benefits have been subjected to quality-assurance reviews designed to identify and correct large errors that would threaten the usefulness of the information in project evaluation.
8. The forecast of ridership using park/ride access to an individual transit stop/station does not exceed the capacity of the associated park/ride lot as reported in the current planning and/or environmental documents for the alternatives.

Certification of Technical Methods and Planning Assumptions (continued)

9. The definitions of the New Starts Baseline and New Starts Build alternatives are up-to-date, include all items known to be part of the proposed scopes, and specifically identify any remaining sources of uncertainty in the scope of the project.
10. The capital cost estimates for the New Starts Baseline and New Starts Build alternatives are up-to-date, are based on unit costs that apply to expected conditions during construction, and specifically identify remaining uncertainties in those unit costs.
11. Estimates of operating and maintenance costs for the New Starts Baseline and New Starts Build alternatives are based on current local experience, are adjusted for differences in vehicle and service characteristics, and for any transit modes new to the system, are consistent with experience in similar settings elsewhere. All cost components are variable, not fixed. Costs vary with changes in service levels.
12. Annualization factors used to convert daily ridership and operating/maintenance costs into yearly totals are consistent with local experience and are the same for the New Starts Baseline and New Starts Build alternatives.
13. The capital cost estimates are presented in 2007 base year dollars as well as YOES\$.
14. The financial plan has been updated with information from the most recent budget cycle.
15. Any financing costs incurred because of the project have been included in the total project cost as required by FTA, regardless of whether the project sponsor is seeking reimbursement of the costs from New Starts funds.
16. The full cost of preliminary engineering and final design has been included in the total project cost as required by FTA.

Therefore, I hereby certify that the City of Madison, Dane County, and the Wisconsin Department of Transportation has followed FTA's *Reporting Instructions for Section 5309 New Starts Criteria* (May 2007) in general, and the above-listed conventions in particular, in the preparation of this submission.

Dane County Executive

Date

3.0 Travel Forecasts

3.0 Travel Forecasts

This section provides a brief overview of the model used to generate ridership forecasts and user benefits for the Transport 2020 rail project. Summit reports and maps, and the Travel Forecasts Template are also provided.

■ 3.1 Travel Forecasting Methodology

The Transport 2020 ridership forecasts and user benefit estimates are based on the Madison MPO model that is applied to the T2020 corridor. The properties of the Madison MPO model were discussed with the FTA and the model was updated and is in accordance with FTA requirements. These requirements are included in the most recent documentation available by the FTA and have been disseminated in FTA courses on New Starts. The model incorporates the following elements:

- A household survey conducted as part of the NHTS add-on sample in 2001/2002 was used to develop the trip generation model and the trip distribution model in the Madison area.
- The 2000 on-board survey and APC and farebox data collected in 2005 were used to assess total bus ridership, bus utilization by route and route grouping, and the extent of transferring.
- Bus transit schedules were reviewed and documented to provide a benchmark for comparing against the bus transit skims that are generated by the Madison model.

The properties of the Madison model for the Transport 2020 corridor were presented and subsequent updates and model validation efforts were discussed with FTA staff during technical meetings and presentations.

A technical methodology meeting was held at FTA's offices on April 4, 2006. The key points of discussion among FTA and project team members are summarized as follows:

- It was agreed that a new **mode choice model** does not need to be estimated since FTA agreed with the approach of using and adjusting coefficients from similar models. Additional information on model structure and modal constants was requested.
- The FTA discussed with the team the value of collecting a reliable and up-to-date **on-board survey** for the Madison area. Such a survey can be used to confirm patterns suggested by the model and will complement the National Household Travel Survey.
- It was agreed to focus on **nonmotorized trips** and suggested to account for these trips by using the existing mode choice model and modifying it to account for the walk and bike modes and their disutility.

- The FTA also suggested to split out the existing **Home-based School** trip purpose to distinguish more clearly between University travel and other school-related travel. This is consistent with the more explicit treatment of walk and bike trips which are more prevalent in the vicinity of the corridor and among University students and staff.
- It was agreed to distinguish between **peak** and **off-peak periods** to the extent that such an approach would help better reflect the congestion on the highway network and especially in the vicinity of the corridor.
- The FTA stressed that according to the current guidance on **modal constant values**, the same constant should be used for bus and for rail alternatives. Different values for the rail constant will depend on the proposed fixed guideway alternative and may be used only at a later stage as part of a sensitivity analysis.

A second meeting was held at FTA offices on May 31, 2007. During this meeting the following items were presented and discussed:

- The project team presented a summary of the **Market Analysis** that highlighted the key drivers of travel flows and transit demand in the Madison area for the current and future year horizons.
- Early results from the **Aggregate Rail Ridership Forecasting** modules were presented and discussed with FTA staff. Both the “light rail” and “commuter rail” modules were used to help bound the sketch estimates of travel demand.
- Preliminary estimates of ridership using the **Madison model** were also presented. Boardings by station group were discussed to highlight the impacts of the overlapping rail service. Estimates of drive and walk access were also discussed.
- The magnitude of the **modal constant** values that should be used for the proposed rail service were discussed with FTA. The “discount” on perceived in-vehicle travel time for rail and the adjusted wait times for longer headways were also implemented as part of this round.

A third meeting was held at FTA offices on October 4, 2007. During this meeting the following five documents were disseminated and discussed with FTA staff:

- The final version of the **Market Analysis** that summarized key travel patterns in the corridor based on the analysis of the 2000 Census Journey to Work data.
- The **Transport 2020 DRAFT Report** that summarized the properties of the Madison Area model for trip generation, distribution, mode choice, and assignment. This report also documented the coefficients used in the mode choice model and discussed how the Home-based University trips were modeled.
- A full set of **Quality Analysis / Quality Control Tables** that were compiled to summarize the base-year and future-year socioeconomic characteristics, observed and modeled travel patterns by purpose, and the share of transit under the TSM and LPA alternatives. A total of nine key districts in the Transport 2020 corridor were used to compare the Madison model with other available data sources.

- The application of the **Aggregate Rail Ridership Forecast** approach to the Transport 2020 corridor was summarized in another technical memo. This application used both a “Light Rail” and a “Commuter Rail” approach to estimate ridership to reflect the relatively high level of service frequency that is envisioned in the corridor.
- A full set of **Summit Benefits Reports** that show the patterns of estimated benefits by purpose and by market segment. Two separate sets of tables were produced showing district-to-district benefits using nine and twenty-five districts in the Madison area. Accompanying maps showed the distribution of benefits in the Madison area at the zonal level.

A fourth follow-up meeting was held via teleconference on November 19, 2007. During this call, we discussed questions posed by the FTA during the October meeting. We also presented and discussed in detail the level of service characteristics for the various Build and No Build options.

- A memo summarizing all key **level of service assumptions** for the Baseline and Build alternatives was prepared. Hours of service, service frequency, location of Park and Ride lots, and the reconfiguration of the existing bus service was detailed.
- Updated **Benefit tables and maps** were produced following the new guidance by the FTA that focuses only on “travel time savings”. The impact of constants was accounted for separately using different assumptions for drive access and walk access rail trips.

■ 3.2 Summit Reports and Maps

Summit reports and maps for the T2020 rail project are provided electronically on a CD contained in the front pocket of this submittal; hard copies of Summit reports are also provided. Key results of this user benefit analysis include the following:

The **total benefits** reflecting the difference in transportation system user daily benefits between the proposed Rail and Baseline alternatives is 69,200 minutes. This estimate is derived exclusively from the model and does not reflect any other benefits:

- No alternative-specific effects are included since both the Rail and Baseline alternatives use the local bus constants from the Madison model.
- No benefits due to special events are included despite the proximity of various key activity centers within the Transport 2020 corridor (Randall Camp, Kohl Center, and Monona Terrace.)
- The perceived rail in-vehicle travel time is treated as identical to the perceived weight of bus in-vehicle travel time without applying a smaller weight on the coefficient.
- All post-model estimates of benefits are calculated independently according to recent FTA guidance.

An annualization factor of 260 has been used, which represents the number of work days in a year. This is a conservative annualization factor, given that the proposed rail service will operate regularly-scheduled service six days a week¹. Metro data suggest that total ridership during a typical weekend is equal to one half of the ridership during a typical weekday.

The **distribution of user benefits** also follows reasonable patterns across purposes and across travel market segments (**Tables 3.1 to 3.6**). Overall, work travel accounts for 72 percent of total daily user benefits. Approximately half of the total benefits are attributed to work-related trips that access the transit system by walking. About a quarter of all benefits correspond to work travel that relies on drive access to reach the proposed transit system.

Table 3.1 focuses on walk access work travel and suggests the following patterns:

- The majority of the benefits (75 percent) accrue to the Can Walk market. This pattern suggests that most of the benefits will accrue to Madison residents who can currently walk to transit. This is generally consistent with the existing development patterns along the Transport 2020 corridor, the existing bus service, and the proposed transit alternatives.
- A smaller percentage of benefits (24 percent) correspond to the Must Drive Market. This pattern may reflect the existing low drive access market share in Madison in the absence of an organized and visible Park and Ride system. Furthermore, the market share of drive access to bus needs to be updated by the new survey.
- There are very few negative benefits that appear in four cells of the benefits matrix.

To examine the distribution of benefits in the study area we use the nine district system shown in **Figure 3.1**. Each of these districts is drawn to correspond to different parts of the Transport 2020 corridor. These districts differentiate between the CBD and the other closer-in areas of the corridor versus the outlying areas that include East Towne at the eastern end of the corridor and Middleton at the western end of the alignment.

We should note that the district labels are used to roughly describe the collection of Traffic Analysis zones along the Transport 2020 corridor. There are two districts whose coverage is broader than what their title suggests.

- In particular, District 4 which is titled Middleton includes the Middleton zones but also includes the Far West Madison and West Towne parts of Madison.
- Similarly, District 7 is referred to as West Towne. This district could also be referred to as either Mid West or the Midvale Blvd. Corridor since it includes Shorewood Hills, Hilldale Mall, and the Sheboygan Avenue area, which is a big transit generator.

The benefits are summarized at the district-to-district level for each trip purpose in **Tables 3.1 to 3.6** and in **Figures 3.2 to 3.8**. These patterns by purpose suggest the following:

¹ Initially, Sunday service and other special event service will be offered as demand warrants.

- For home-based work travel with walk access to transit benefits are summarized in **Table 3.1** and **Figure 3.2**:
 - In the western part of the corridor, most of the benefits are produced in the Middleton and West Towne districts (specifically west Madison and the Sheboygan Avenue area).
 - In the eastern part of the corridor, benefits are concentrated in the Near East and East Towne districts. These patterns are consistent with the proposed transit service improvements and benefits to the corridor's outlying areas.
 - Areas that attract most of the benefits include the Madison CBD, the UW Campus area, and the Middleton district consistent with the transit service and stop patterns. We should note that District 8 - UW Campus also includes the UW Hospital & Clinics and Veteran's Hospital which account for a lot of the benefits attracted to this district.
- For home-based work travel with drive access to the four Park and Ride lots, the benefits are summarized in **Table 3.2** and **Figure 3.3**:
 - Most of the benefits are produced in the Rest of Dane County (especially in western Sun Prairie just east of the boundaries of District 6) and in remote western sections of the Middleton district reflecting the longer trips that are expected to benefit from drive access to the proposed Transport 2020 service.
 - Areas that attract the majority of the benefits for this trip purpose include the Madison CBD and the UW Campus area, two key employment concentrations in the corridor.
- For home-based other travel shown in **Table 3.3** and **Figure 3.3**,
 - Most benefits are produced in the UW Campus area and the Near West districts. At the attraction end of travel, system user benefits are concentrated in the Middleton and West Towne districts.
 - We should also note some negative benefits that appear to be produced in Middleton, Mendota/Airport and Rest of Dane County districts. The alignment of the Baseline alternative a little north of the rail line accounts for some of these disbenefits.
- The non-home-based trip purpose accounts for few benefits that are produced mostly in the West Towne and the UW Campus districts and are attracted primarily to the Campus area (**Table 3.4** and **Figure 3.5**).
- The home-based University trip purpose produces a small amount of negative benefits. This suggests that the nature of the short, local trips taken within or close to the University area by UW students will be served equally well or marginally better by the Baseline option (**Table 3.5** and **Figure 3.6**).

- In summary, the total district-to-district benefits summarized in **Table 3.6** and presented in **Figures 3.7** and **3.8** show the distribution of total transportation system user benefits both at the production end of the trips (**Figure 3.7**) and at the attraction end of the trips (**Figure 3.8**):
 - Outlying areas such as Rest of Dane County, Middleton and East Towne account for almost 40 percent of the benefits produced.
 - Closer-in districts that include the UW Campus area, West Towne and Near East account for an additional 47 percent of benefits produced.
 - The distribution of benefits that are attracted by different districts point to the dominance of the Madison CBD as the most important concentration of attracted benefits due to the improved accessibility of that area.
 - Other areas in Madison that attract a significant share of benefits include the UW Campus area, Middleton, and West Towne underscoring the role that the proposed rail service will play in serving these districts.

Figures 3.2 through **3.8** show the distribution of benefits at the Traffic Analysis zone level of detail along the proposed Transport 2020 corridor. These patterns are consistent with the summary findings discussed in this section. Some of the reductions in benefits are due to the slightly different alignment of the Baseline and the Rail alternative primarily east of the Madison downtown area.

■ 3.3 Post-model Benefits

The recent guidance from the FTA differentiates between the travel time savings attributable to a proposed New Starts project and the alternative specific effects that are associated with improved new transit service such as fixed guideway rail and bus systems. The Final Guidance on New Starts/Small Starts Policies allows project sponsors that seek to introduce a new transit mode to an area to claim credits (implemented through what is commonly called a mode specific constant or effect) for the user benefits caused by attributes of that mode beyond the travel time and cost measures currently available in the local travel model.

The approach gives credit and additional user benefits based on the specific attributes of the proposed transit alternative as they are perceived by travelers. FTA will consider credits for characteristics in three categories of transit service:

Guideway-like characteristics can result to assigning to a new transit mode the equivalent of up to eight minutes of travel time savings. Operating reliability may account for up to four minutes, visibility and branding up to two minutes, and schedule-free service up to two minutes of travel time savings.

The second category reflects the **span of good service** and the travel time benefits can account for up to the equivalent of three minutes of travel time savings.

Passenger amenities is the last category of additional benefits and can account for up to four minutes of equivalent travel time savings. Upgraded and visible stations and stops account for up to 3 minutes and dynamic schedule information amounts up to 1 minute of travel time savings.

Furthermore, a discount of up to 20 percent on the weight applied to time spent on the transit vehicle (the **in-vehicle travel time** component of travel) can be used to reflect the perceived advantages of a proposed transit service that operates on its own right of way.

The difference with the prior methodology used in New Starts is that the alternative specific effect credits and the discount on travel time are applied to the calculation of user benefits only while the ridership forecasts are not affected. Furthermore, there is a distinction between the larger benefits that are expected for riders who drive to transit and the benefits that are expected for those who walk to transit.

In the Transport 2020 project we used conservative estimates of seven minutes of additional travel time savings for those who drive to transit and three minutes of additional travel time savings for those who walk to transit. These assumptions were used to calculate the total benefits for Transport 2020.

The estimated travel time benefits were originally 69,200 minutes of daily benefits (**Table 3.6**). An additional 121,600 minutes of daily benefits reflect the seven and three minutes of additional travel time savings that were assumed. This brings the transportation system user benefits to a total of 190,800 minutes of daily benefits.

These benefits are annualized resulting in an estimate of total benefits of 826,800 hours which is used in calculating the cost-effectiveness index used for this submittal.

■ 3.4 Travel Forecast Template

Ridership results for the T2020 rail project are presented in the Travel Forecast Template provided at the end of this section.

■ 3.5 Annualization Factor

An annualization factor of 260 has been used, which represents the number of work days in a year. This is a conservative annualization factor, given that the proposed rail service

will operate regularly-scheduled service six days a week². Metro data suggest that total ridership during a typical weekend is equal to one half of the ridership during a typical weekday.

■ 3.6 Screening Process for Bus Alternatives

As documented in the alternatives analysis undertaken for the Transport 2020 corridor, a range of alternatives was identified and examined to determine which alternative best addresses the purpose and need for improvements in the corridor. These alternatives were all designed to provide comparable levels of service aimed at meeting the needs and serving the travel markets in the corridor, and included both bus and rail alternatives; bus alternatives examined included a Bus Rapid Transit (BRT) system as well as enhancements to Madison's existing highly utilized bus system operated by Metro Transit. The latter alternative was subsequently identified as the Baseline Alternative (see Section 1.0 for a definition of this alternative) which, in accordance with FTA New Starts guidelines, is used as the point of comparison for calculating the cost effectiveness of the LPA.

The BRT Alternative, which was evaluated and screened out early in the alternatives analysis process, would need to provide the same level of service as the rail alternatives via a dedicated transit lane. That dedicated lane would need to extend for the entire length of the east-west transit corridor, and buses would need priority operations at intersections of other streets. To achieve these operating characteristics, new right-of-way would be required, as opposed to conversion of existing lanes to bus-only lanes, due to the severely limited traffic capacity that now exists throughout the isthmus and east-west travel corridor. These right-of-way needs proved to be a fatal flaw for the BRT alternative, given the constrained roadway network (particularly on the Isthmus). In contrast, the LPA (as well as the other rail alternatives) provides a dedicated transit lane for the entire length within the existing railroad right-of-way and does not delay the trains at intersections (i.e., trains have priority at street intersections).

As noted above and described in more detail in Section 1.0, the Baseline Alternative represents the best that can be done to address needs in the corridor absent a major capital investment. As such, the Baseline would operate at a similar service frequency and serve the same travel markets as the LPA. On the east side, the Baseline provides a dedicated bus travel lane between the Capitol Square and Milwaukee Street (by removing existing on-street parking). However, throughout the remainder of corridor, buses would operate in mixed traffic since the conversion of travel lanes to bus-only lanes has been rejected by the community.

² Initially, Sunday service and other special event service will be offered as demand warrants.

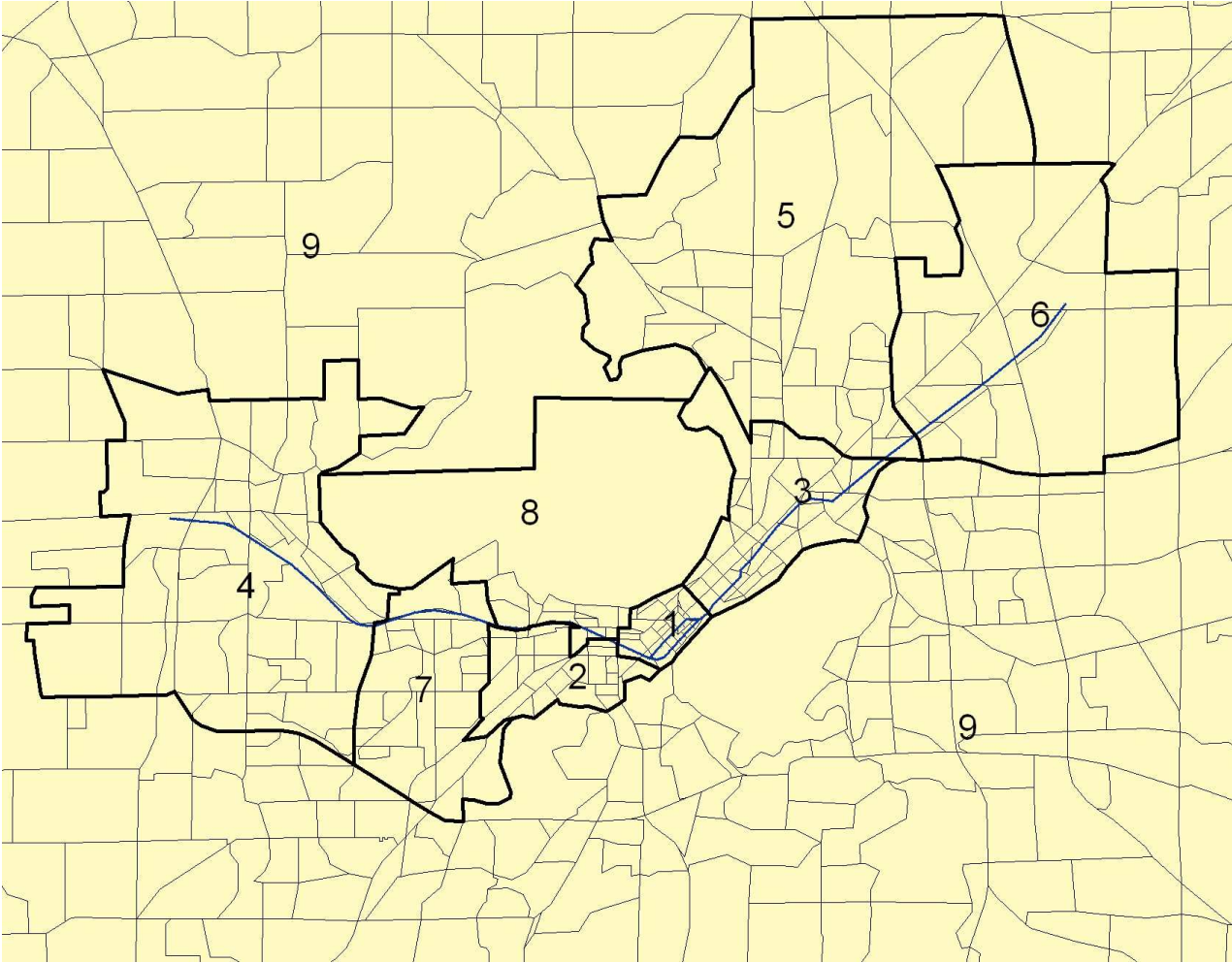
In comparison to the Baseline Alternative, the commuter rail LPA offers superior point-to-point travel times and reliability. This will become most evident over time, as development along east-west travel corridor and traffic congestion grows into the future. The rail alternative would provide attractive service not just in the plan forecast year (2030), but especially in later years - in 40, 50, 75 years from now. Travel conditions in those "out-years" will see rail corridor travel times remaining constant, while auto and bus travel times become unacceptable (as has been the experience in countless growing U.S. cities). In addition, over the course of many years, this very high level of commuter rail service and reliability will help to create an urban form and magnitude of new development along the east-west travel corridor that is unmatched by any of the other alternatives.

The estimated capital costs for the various transit options are as follows:

- Baseline Bus: \$44 million
- Bus Rapid Transit (BRT) w/ dedicated bus lanes: \$192 million
- Transport 2020 Commuter Rail: \$252 million

A proper evaluation of these options should consider the true costs and benefits of each, especially viewed in light of the long term health of the community.

Figure 3.1. Districts in the Madison Area for Summaries of Travel Benefits



- Districts:
- | | | |
|--------|---------------|------------------------|
| 1: CBD | 2: Near West | 3: Near East |
| | 7: West Towne | 6: East Towne |
| | 8: UW Campus | 5: Mendota/Airport |
| | 4: Middleton | 9: Rest of Dane County |

Figure 3.2. Benefits for Home Based Work Travel with Walk Access at the Production End

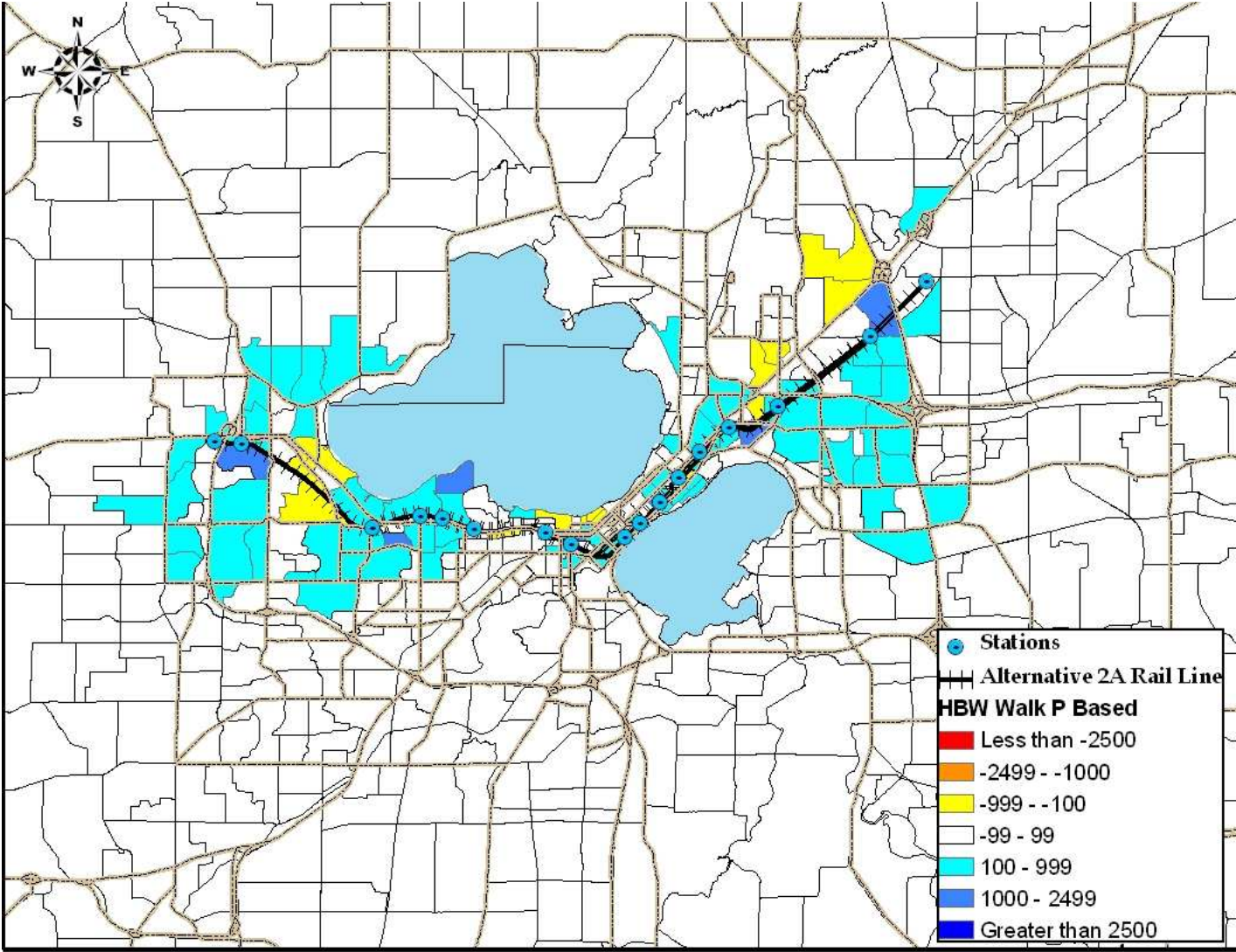


Figure 3.3. Benefits for Home Based Work Travel with Drive Access (Production End)

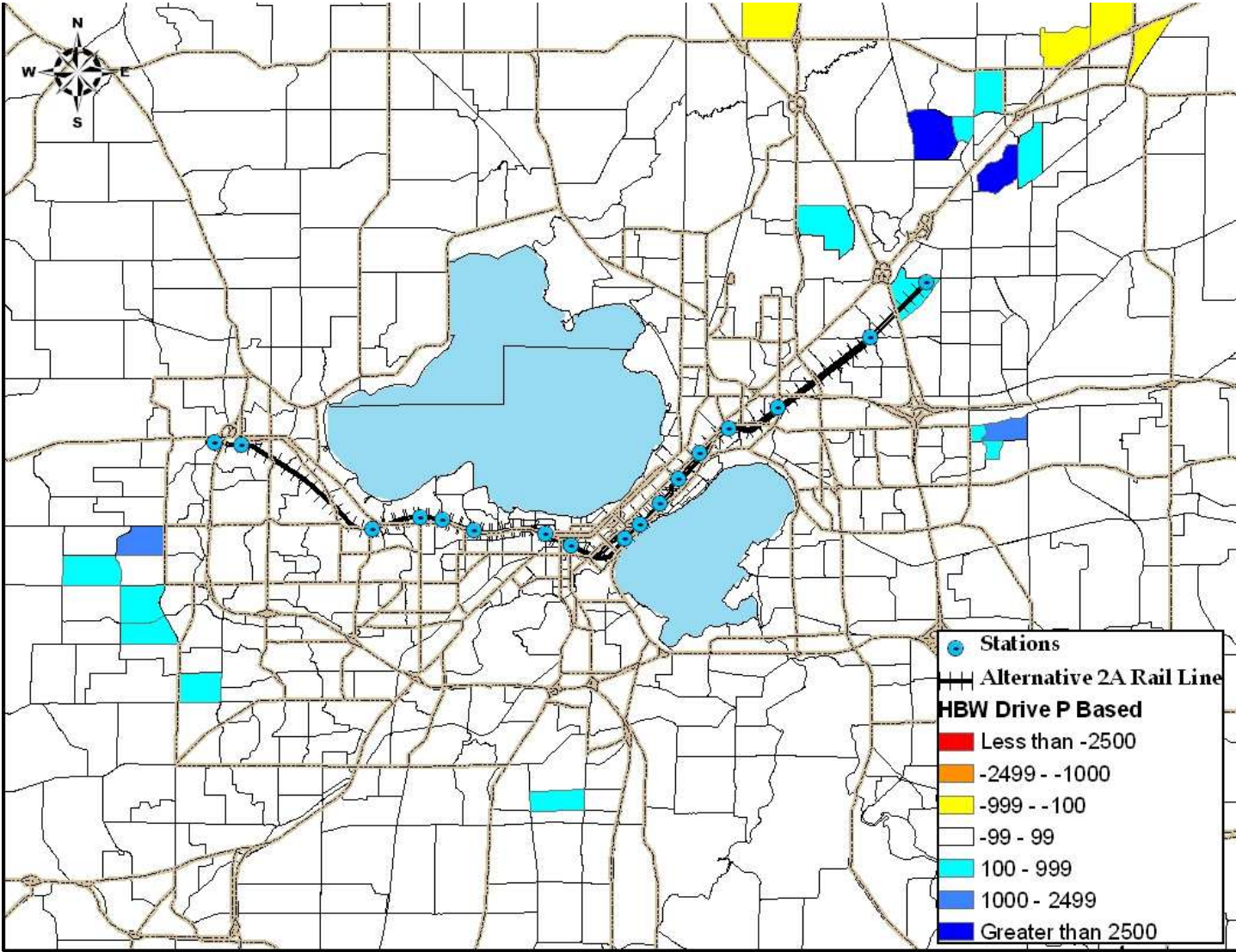


Figure 3.4. Benefits for Home Based Other Travel with Walk Access at the Production End

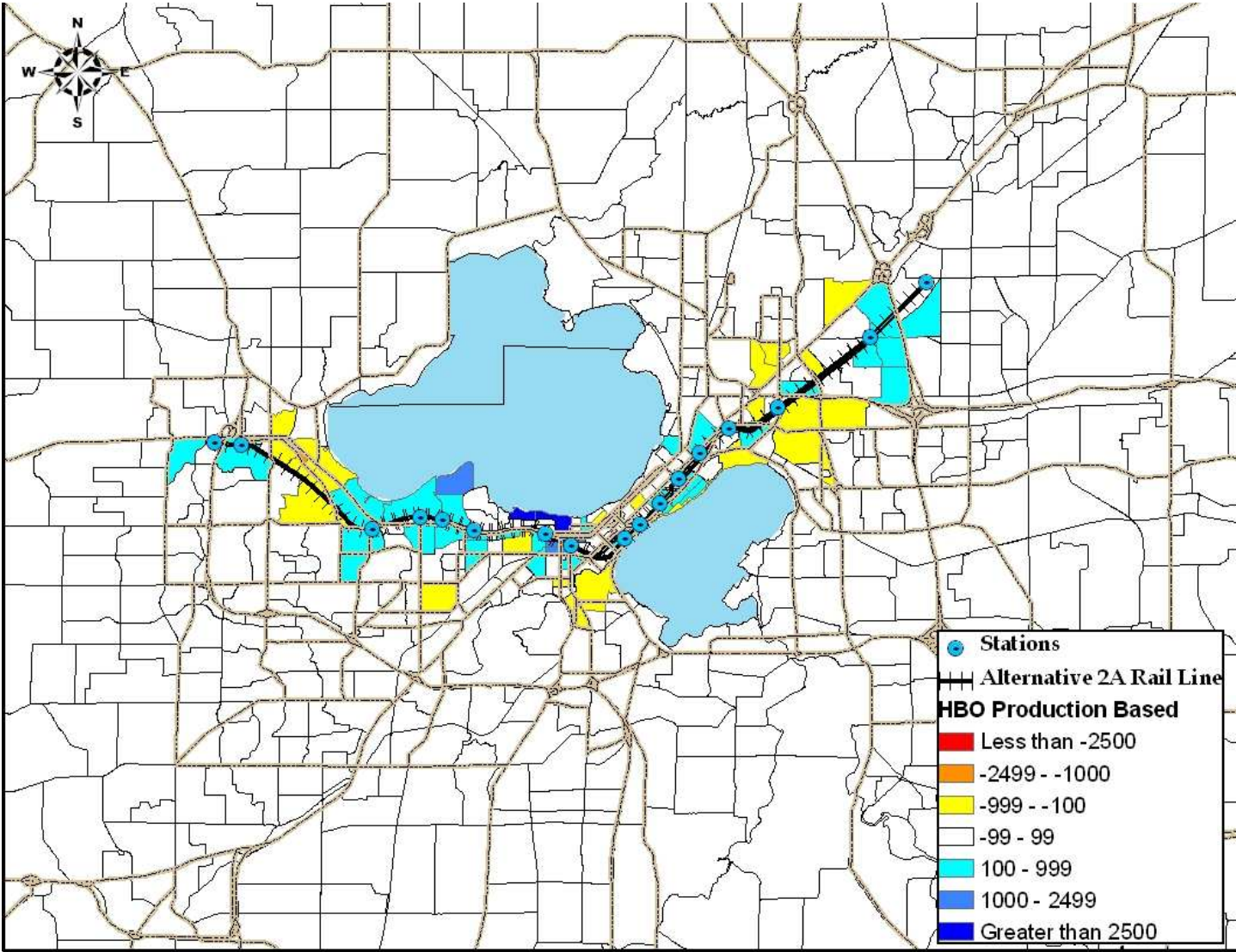


Figure 3.5. Benefits for Non Home Based Travel with Walk Access at the Production End

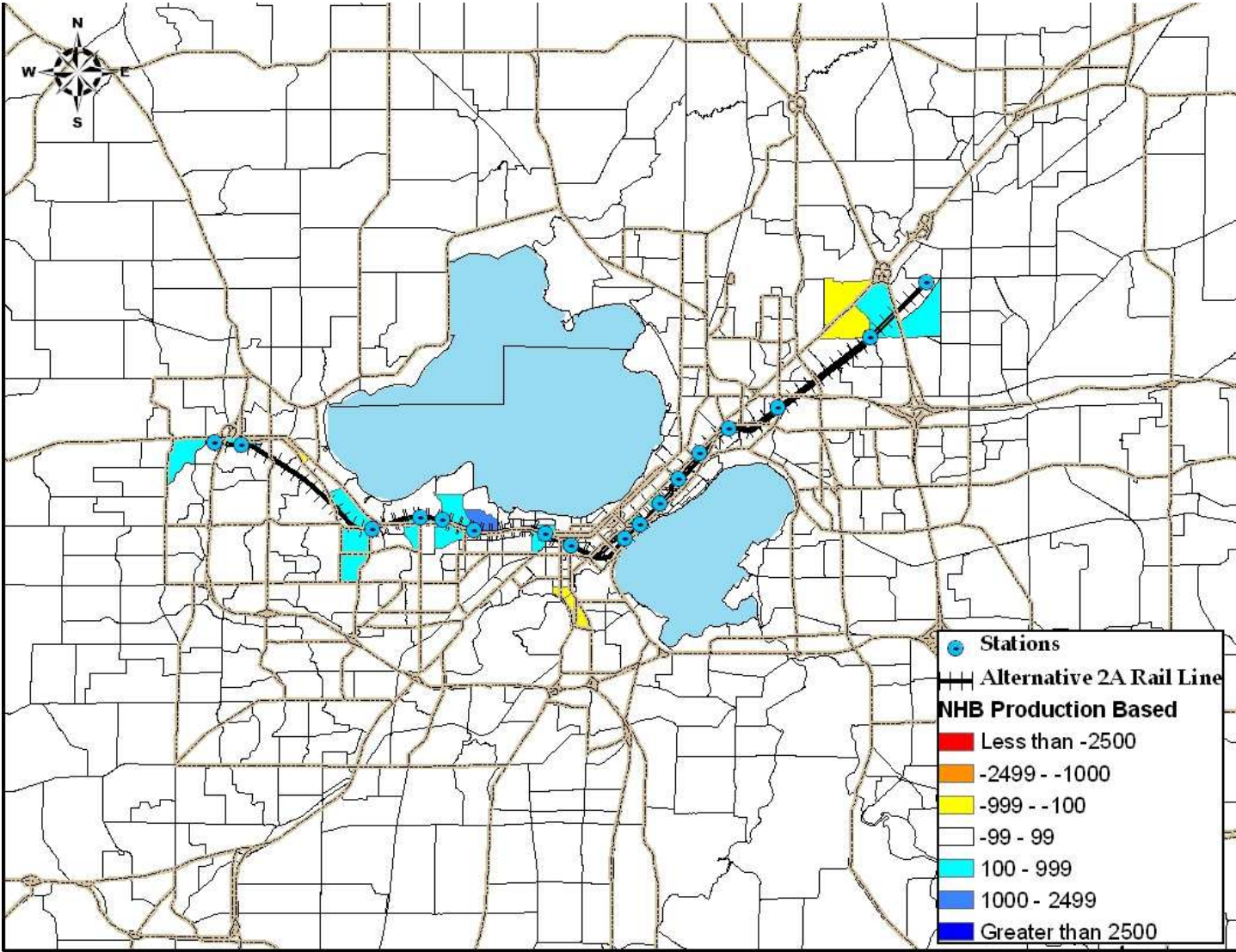


Figure 3.6. Benefits for Home Based University with Walk Access at the Production End

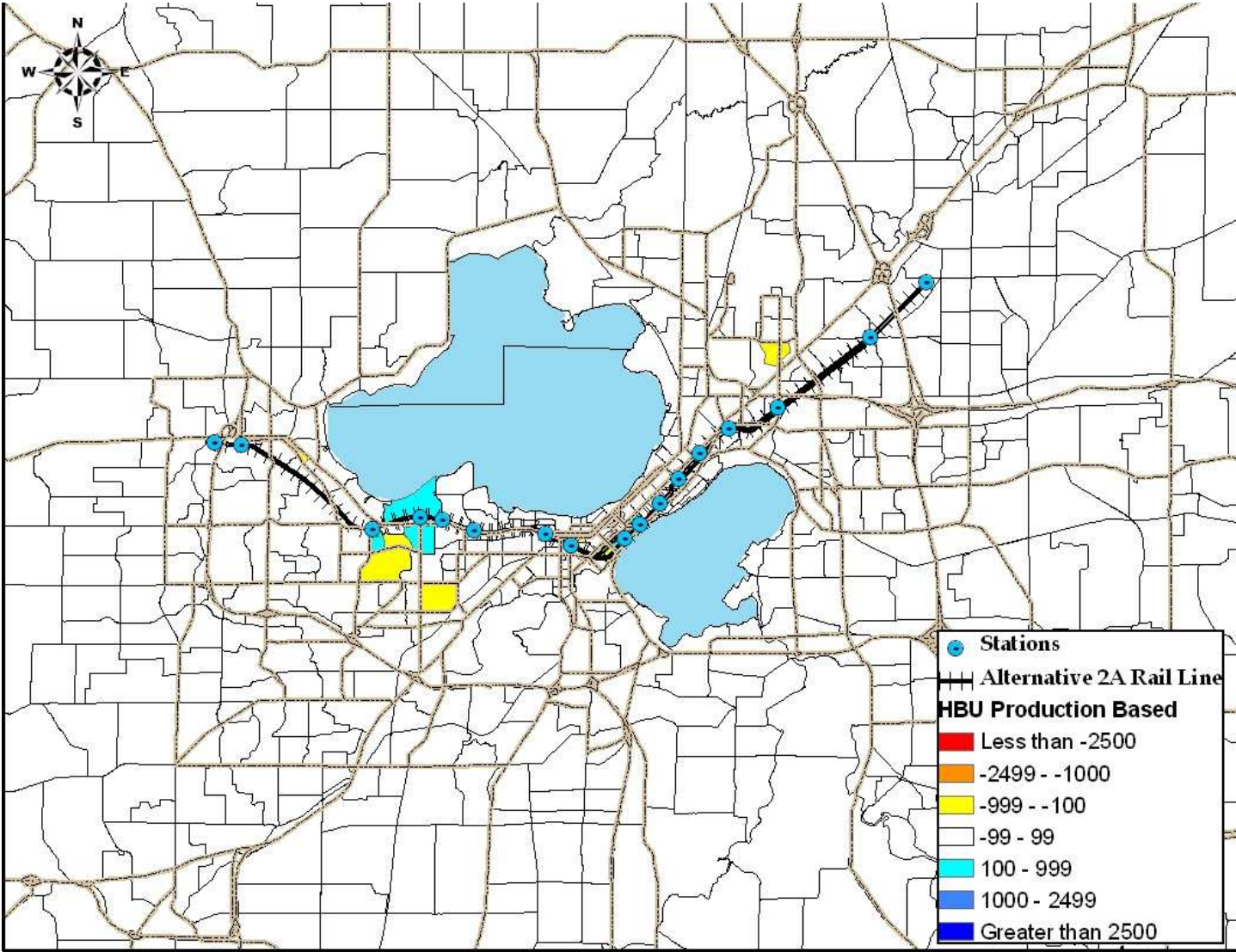


Figure 3.7. Total Benefits at the Production End of Travel

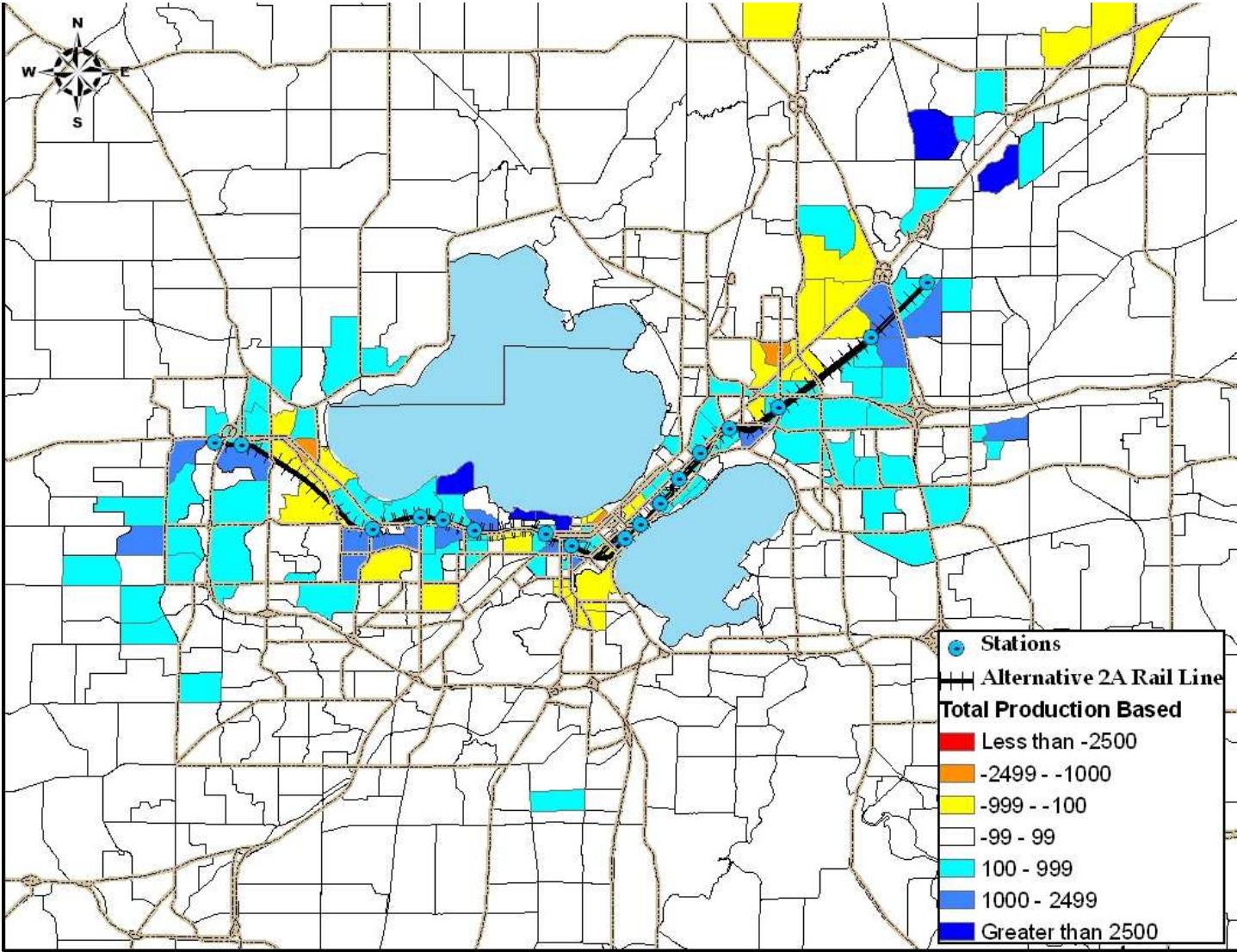


Figure 3.8. Total Benefits at the Attraction End of Travel

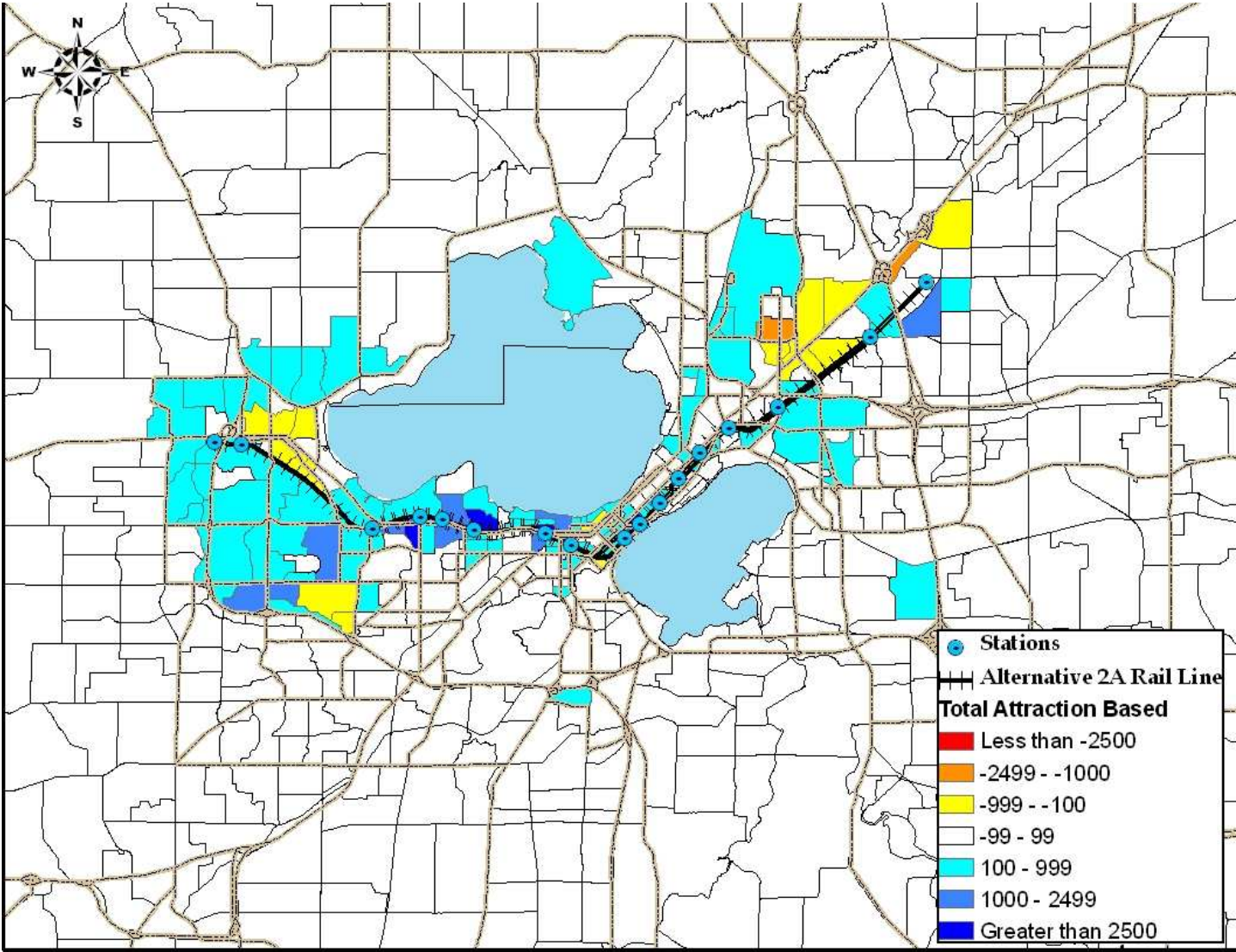


Table 3.1. Home-based Work Walk Access Benefits: Production to Attraction District

HBW Walk Access	1 - CBD	2 - Near West	3 - Near East	4 - Middleton	5 - Mendota/Airport	6 - East Towne	7 - West Towne	8 - Campus	9 - Rest of Dane Co.	Total
1 - CBD	-364	-21	493	1,733	627	-92	739	-298	42	2,859
2 - Near West	-973	-16	-60	582	101	-75	452	276	-5	282
3 - Near East	3,617	44	287	1,472	179	-189	1,072	1,787	-200	8,069
4 - Middleton	4,746	183	182	-115	30	36	95	1,756	161	7,074
5 - Mendota/Airport	311	18	163	105	-11	-54	14	71	-245	372
6 - East Towne	2,133	173	279	260	-3	-34	255	1,008	301	4,372
7 - West Towne	2,250	187	210	90	63	33	4	1,765	160	4,762
8 - Campus	601	-13	237	188	177	-27	41	-63	69	1,210
9 - Rest of Dane Co.	2,505	186	113	465	-205	-144	342	986	148	4,396
Total	14,826	741	1,904	4,780	958	-546	3,014	7,288	431	33,396

Table 3.2. Home-based Work Drive Access Benefits: Production to Attraction District

HBW Drive Access	1 - CBD	2 - Near West	3 - Near East	4 - Middleton	5 - Mendota/Airport	6 - East Towne	7 - West Towne	8 - Campus	9 - Rest of Dane Co.	Total
1 - CBD	0	0	0	0	0	0	0	0	0	0
2 - Near West	0	0	0	0	0	0	0	0	0	0
3 - Near East	41	1	2	3	0	0	3	4	0	54
4 - Middleton	1,442	113	114	-102	21	32	140	950	189	2,899
5 - Mendota/Airport	372	40	100	35	-41	-17	43	185	15	732
6 - East Towne	104	5	6	5	-9	-10	6	36	5	148
7 - West Towne	0	0	0	0	0	0	0	0	0	0
8 - Campus	0	0	0	0	0	0	0	0	0	0
9 - Rest of Dane Co.	6,974	855	913	736	-968	-504	734	3,400	934	13,074
Total	8,933	1,014	1,135	677	-997	-499	926	4,575	1,143	16,907

Table 3.3. Home-based Other Benefits: Production to Attraction District

HBO	1 - CBD	2 - Near West	3 - Near East	4 - Middleton	5 - Mendota/Airport	6 - East Towne	7 - West Towne	8 - Campus	9 - Rest of Dane Co.	Total
1 - CBD	-616	-9	-178	1,380	21	207	1,079	92	86	2,062
2 - Near West	-930	158	277	3,401	-47	77	2,009	667	258	5,870
3 - Near East	7	221	272	899	28	-526	681	532	407	2,521
4 - Middleton	-374	-183	-23	-1,945	-1	6	-414	-195	-67	-3,196
5 - Mendota/Airport	-179	-7	22	-45	-36	-248	-29	-15	-523	-1,060
6 - East Towne	103	22	89	17	18	437	12	29	8	735
7 - West Towne	666	138	283	330	11	32	-578	136	138	1,156
8 - Campus	-4	-185	913	3,544	74	286	2,863	10	1,203	8,704
9 - Rest of Dane Co.	-618	-84	-682	-14	-130	-547	-54	-160	-43	-2,332
Total	-1,945	71	973	7,567	-62	-276	5,569	1,096	1,467	14,460

Table 3.4. Non Home-based Benefits: Production to Attraction District

NHB	1 - CBD	2 - Near West	3 - Near East	4 - Middleton	5 - Mendota/Airport	6 - East Towne	7 - West Towne	8 - Campus	9 - Rest of Dane Co.	Total
1 - CBD	-915	-5	65	212	4	39	183	435	47	65
2 - Near West	-574	-7	28	116	-8	6	77	166	13	-183
3 - Near East	306	23	26	119	3	-21	97	318	26	897
4 - Middleton	126	4	22	-68	5	9	-1	95	28	220
5 - Mendota/Airport	22	2	6	2	-2	-8	1	15	-25	13
6 - East Towne	65	8	-15	10	-10	-37	7	36	-17	47
7 - West Towne	1,098	76	104	111	10	16	-31	424	49	1,857
8 - Campus	925	5	192	459	11	29	160	215	122	2,118
9 - Rest of Dane Co.	-240	-1	-35	9	-9	-30	0	-45	-2	-353
Total	813	105	393	970	4	3	493	1,659	241	4,681

Table 3.5. Home-based University Benefits: Production to Attraction District

HBU	1 - CBD	2 - Near West	3 - Near East	4 - Middleton	5 - Mendota/Airport	6 - East Towne	7 - West Towne	8 - Campus	9 - Rest of Dane Co.	Total
1 - CBD	-13	-7	-1	0	-20	0	0	-675	0	-716
2 - Near West	-8	-1	0	0	-3	0	0	-73	0	-85
3 - Near East	-6	4	0	0	2	0	0	432	0	432
4 - Middleton	-9	-17	0	0	0	0	0	-239	0	-265
5 - Mendota/Airport	2	1	0	0	0	0	0	-97	0	-94
6 - East Towne	5	5	0	0	7	0	0	117	0	134
7 - West Towne	16	41	0	0	0	0	0	525	0	582
8 - Campus	21	-12	-1	0	2	0	0	-3	0	7
9 - Rest of Dane Co.	-27	1	0	0	0	0	0	-211	0	-237
Total	-19	15	-2	0	-12	0	0	-224	0	-242

Table 3.6. Benefits Across All Travel Purposes: Production to Attraction District

TOTAL	1 - CBD	2 - Near West	3 - Near East	4 - Middleton	5 - Mendota/Airport	6 - East Towne	7 - West Towne	8 - Campus	9 - Rest of Dane Co.	Total
1 - CBD	-1,908	-42	379	3,325	632	154	2,001	-446	175	4,270
2 - Near West	-2,485	134	245	4,099	43	8	2,538	1,036	266	5,884
3 - Near East	3,965	293	587	2,493	212	-736	1,853	3,073	233	11,973
4 - Middleton	5,931	100	295	-2,230	55	83	-180	2,367	311	6,732
5 - Mendota/Airport	528	54	291	97	-90	-327	29	159	-778	-37
6 - East Towne	2,410	213	359	292	3	356	280	1,226	297	5,436
7 - West Towne	4,030	442	597	531	84	81	-605	2,850	347	8,357
8 - Campus	1,543	-205	1,341	4,191	264	288	3,064	159	1,394	12,039
9 - Rest of Dane Co.	8,594	957	309	1,196	-1,312	-1,225	1,022	3,970	1,037	14,548
Total	22,608	1,946	4,403	13,994	-109	-1,318	10,002	14,394	3,282	69,202

4.0 Cost Estimating Assumptions

4.0 Cost Estimation Assumptions

This section provides a summary of the assumptions used to develop capital and operating and maintenance (O&M) costs for the Transport 2020 project.

■ 4.1 Capital Costing Approach

Capital costs for the Transport 2020 Build and Baseline Alternatives were prepared and are reported in the Standard Cost Categories (SCC) worksheet (Rev. 10, May 7, 2007).

Construction cost values used in the Transport 2020 project capital cost estimate were gathered from a number of sources, emphasizing the comparability (e.g., mode, service attributes), geographic basis, and the currency of the information. The sources for unit cost data include:

- Internal consultant team sources;
- Industry publications; and
- Local City of Madison and Wisconsin Department of Transportation construction costs.

The allocated contingency cost used in this estimate was set at 24 percent of the base construction costs. No unallocated contingency was incorporated into the cost estimate. This contingency is sufficient based on the current level of design and given the presence of existing operating infrastructure. Professional services, including engineering/design costs as well as construction-phase engineering and start up costs are estimated at 22.7 percent of the base construction costs.

Baseline costs reflect branded vehicles that would be procured to operate enhanced bus service in the Transit Priority Corridor as well as minor roadway improvements and curb extensions, signal improvements, and an expanded maintenance facility needed to support the increased fleet.

■ 4.2 Standard Cost Categories Worksheet

Capital costs for the Transport 2020 project Build and Baseline alternatives are reported in the Standard Cost Categories (SCC) worksheet. The SCC worksheet is provided at the end of this section and electronically on a CD contained in the front pocket of this submittal.

■ 4.3 O&M Costing Approach

O&M costs for the Transport 2020 Build and Baseline alternatives are based on mode specific resource unit costs and productivity factors. Rates from representative services in the Midwest were utilized, as well as from Metro Transit and the National Transit Database. The O&M costs for the Build and Baseline reflect anticipated fleet and train sizes, as well as the type of rail and bus equipment to be used. Total O&M costs also include administrative, overheads, and other supporting costs. Table 4.1 shows the unit costs for each major O&M cost category in both the Build and Baseline Alternatives.

As certified in the Certification of Planning Methods and Technical Assumptions Template contained in Section 2.0, a fully allocated approach has been utilized to estimate Build and Baseline O&M costs for purposes of calculating cost-effectiveness.

Table 4.1 O&M Unit Costs

Cost Category	Unit Cost (2006 Dollars)	Unit
<i>Bus</i>		
Operator's salaries and wages	\$24.88	Vehicle hour
Other salaries and wages	\$24,940.33	Peak fleet
Fringe benefits	\$28.47	Vehicle hour
Services	\$1,972.77	Peak fleet
Fuels and lubricants	\$0.51	Vehicle mile
Tires and tubes	\$0.02	Vehicle mile
Other materials and supplies	\$0.18	Vehicle mile
Utilities	\$2,860.19	Peak fleet
Casualty and liability costs	\$2,473.88	Peak fleet
Taxes	\$0.00	Vehicle mile
Purchased transportation	\$9.32	Vehicle hour
Miscellaneous expense	\$321.54	Peak fleet
Interest expense	\$1,737.17	Peak fleet
Leases and rentals	\$16,394.75	Transfer centers
<i>Commuter Rail</i>		
Operator labor cost	\$41.75	Train hour
Supervisor labor cost	\$43.63	Train hour
Dispatcher labor cost	\$32.24	Train hour
Other personnel labor cost	\$32.24	Train hour
Maintenance of Way - gates/signals	\$7,585	Track mile
Maintenance of Way - track inspection	\$13,219	Track mile
Maintenance of Way - track materials	\$24,310	Track mile
Maintenance of Way - track equipment	\$14,369	Track mile
Maintenance of Equipment - labor	\$79,458	DMU unit
Maintenance of Equipment - parts	\$57,635	DMU unit
Trackage fee - Union Pacific	\$50,000	Annual
Trackage fee - WSOR	\$200,000	Annual
Cost of fuel	\$3.35	Train mile

Standard Cost Categories for Capital Projects

(Rev.10, May 7, 2007)

10 GUIDEWAY & TRACK ELEMENTS (route miles)

- 10.01 Guideway: At-grade exclusive right-of-way
- 10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)
- 10.03 Guideway: At-grade in mixed traffic
- 10.04 Guideway: Aerial structure
- 10.05 Guideway: Built-up fill
- 10.06 Guideway: Underground cut & cover
- 10.07 Guideway: Underground tunnel
- 10.08 Guideway: Retained cut or fill
- 10.09 Track: Direct fixation
- 10.10 Track: Embedded
- 10.11 Track: Ballasted
- 10.12 Track: Special (switches, turnouts)
- 10.13 Track: Vibration and noise dampening

20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)

- 20.01 At-grade station, stop, shelter, mall, terminal, platform
- 20.02 Aerial station, stop, shelter, mall, terminal, platform
- 20.03 Underground station, stop, shelter, mall, terminal, platform
- 20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.
- 20.05 Joint development
- 20.06 Automobile parking multi-story structure
- 20.07 Elevators, escalators

30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS

- 30.01 Administration Building: Office, sales, storage, revenue counting
- 30.02 Light Maintenance Facility
- 30.03 Heavy Maintenance Facility
- 30.04 Storage or Maintenance of Way Building
- 30.05 Yard and Yard Track

40 SITEWORK & SPECIAL CONDITIONS

- 40.01 Demolition, Clearing, Earthwork
- 40.02 Site Utilities, Utility Relocation
- 40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments
- 40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks
- 40.05 Site structures including retaining walls, sound walls
- 40.06 Pedestrian / bike access and accommodation, landscaping
- 40.07 Automobile, bus, van accessways including roads, parking lots
- 40.08 Temporary Facilities and other indirect costs during construction

50 SYSTEMS

- 50.01 Train control and signals
- 50.02 Traffic signals and crossing protection
- 50.03 Traction power supply: substations
- 50.04 Traction power distribution: catenary and third rail
- 50.05 Communications
- 50.06 Fare collection system and equipment
- 50.07 Central Control

60 ROW, LAND, EXISTING IMPROVEMENTS
60.01 Purchase or lease of real estate
60.02 Relocation of existing households and businesses
70 VEHICLES (number)
70.01 Light Rail
70.02 Heavy Rail
70.03 Commuter Rail
70.04 Bus
70.05 Other
70.06 Non-revenue vehicles
70.07 Spare parts
80 PROFESSIONAL SERVICES
80.01 Preliminary Engineering
80.02 Final Design
80.03 Project Management for Design and Construction
80.04 Construction Administration & Management
80.05 Insurance
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.
80.07 Surveys, Testing, Investigation, Inspection
80.08 Start up
90 UNALLOCATED CONTINGENCY
100 FINANCE CHARGES

Standard Cost Categories for Capital Projects DEFINITIONS		NOTE: The SCC cost breakdown is based on a traditional Design Bid Build model. If your project is Design Build, to the best of your ability, separate construction costs from design, administration, testing, etc. Put all construction costs in 10 through 50. Put design, administration, testing, etc. in <i>80 Professional Services</i> .
(Rev.10, May 7, 2007)		
10 GUIDEWAY & TRACK ELEMENTS (route miles)		<p>Include guideway and track costs for all transit modes (Heavy rail, light rail, commuter rail, BRT, rapid bus, bus, monorail, cable car, etc.) The unit of measure is route miles of guideway, regardless of width. As associated with the guideway, include costs for rough grading, excavation, and concrete base for guideway where applicable. Include all construction materials and labor regardless of whom is performing the work.</p> <p>In your written description of the scope and in supporting graphic diagrams, indicate whether busway or rail track is single, double, triple, relocated, etc. Put guideway and track elements associated with yards in <i>30 Support Facilities</i> below.</p>
10.01	Guideway: At-grade exclusive right-of-way	
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic)	
10.03	Guideway: At-grade in mixed traffic	
10.04	Guideway: Aerial structure	Include foundation excavation; guideway structures including caissons, columns, bridges, viaducts, cross-overs, fly-overs.
10.05	Guideway: Built-up fill	Include construction of earthen berms.
10.06	Guideway: Underground cut & cover	Include excavation, retaining walls, backfill, underground guideway structure and finishes.
10.07	Guideway: Underground tunnel	Include tunneling by means of a tunnel boring machine, drill blasting, mining, and immersed tube tunneling; tunnel structure and finishes.
10.08	Guideway: Retained cut or fill	Include excavation, retaining walls, backfill, underground guideway structure and finishes.
10.09	Track: Direct fixation	Include rails, connectors.
10.10	Track: Embedded	Include rails, ties; ballast where applicable
10.11	Track: Ballasted	Include rails, ties and ballast.
10.12	Track: Special (switches, turnouts)	Include transitional curves.
10.13	Track: Vibration and noise dampening	Include upcharge for vib/noise dampening to any track condition above.
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)		As associated with stations, include costs for rough grading, excavation, station structures, enclosures, finishes, equipment; mechanical and electrical components including HVAC, ventilation shafts and equipment, station power, lighting, public address/customer information system, safety systems such as fire detection and prevention, security surveillance, access control, life safety systems, etc. Include all construction materials and labor regardless of whom is performing the work.
		Put guideway and track associated with stations in <i>10 Guideway & Track Elements</i> above.
20.01	At-grade station, stop, shelter, mall, terminal, platform	
20.02	Aerial station, stop, shelter, mall, terminal, platform	Include station structures including caissons, columns, platforms, superstructures, etc.
20.03	Underground station, stop, shelter, mall, terminal, platform	Include retaining walls, backfill, structure.
20.04	Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	
20.05	Joint development	Per FTA's Joint Development Guidance, "Joint development is any income-producing activity with a transit nexus related to a real estate asset in which FTA has an interest. . . Joint development projects are commercial, residential, industrial, or mixed-use developments that are induced by or enhance the effectiveness of transit projects. . ." See http://www.fta.dot.gov/17973_18027_ENG_HTML.htm
20.06	Automobile parking multi-story structure	Include retaining walls, backfill, structure.
20.07	Elevators, escalators	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		As associated with support facilities, include costs for rough grading, excavation, support structures, enclosures, finishes, equipment; mechanical and electrical components including HVAC, ventilation shafts and equipment, facility power, lighting, public address system, safety systems such as fire detection and prevention, security surveillance, access control, life safety systems, etc. Include fueling stations. Include all construction materials and labor regardless of whom is performing the work.
		Where a support facility shares the structure with a station, its cost may be included with station cost. Identify this with a note.
		Except for guideway and track associated with a yard, include all guideway and track costs associated with support facilities in <i>10 Guideway & Track Elements</i> above.
30.01	Administration Building: Office, sales, storage, revenue counting	
30.02	Light Maintenance Facility	Include service, inspection, and storage facilities and equipment.
30.03	Heavy Maintenance Facility	Include heavy maintenance and overhaul facilities and equipment.
30.04	Storage or Maintenance of Way Building	
30.05	Yard and Yard Track	Include yard construction, guideway and track associated with yard.

40 SITEWORK & SPECIAL CONDITIONS		Include all construction materials and labor regardless of whom is performing the work.
40.01	Demolition, Clearing, Earthwork	Include project-wide clearing, demolition and fine grading.
40.02	Site Utilities, Utility Relocation	Include all site utilities - storm, sewer, water, gas, electric.
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	Include underground storage tanks, fuel tanks, other hazardous materials and treatments, etc.
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	Include other environmental mitigation not listed.
40.05	Site structures including retaining walls, sound walls	
40.06	Pedestrian / bike access and accommodation, landscaping	Include sidewalks, paths, plazas, landscape, site and station furniture, site lighting, signage, public artwork, bike facilities, permanent fencing.
40.07	Automobile, bus, van accessways including roads, parking lots	Include all on-grade paving.
40.08	Temporary Facilities and other indirect costs during construction	As a general rule and to the extent possible, appropriately allocate indirect costs among the construction costs in Categories 10 through 50. Where that is not possible, include in <i>40.08 Temporary Facilities</i> costs for mobilization, demobilization, phasing; time and temporary construction associated with weather (heat, rain, freezing, etc.); temporary power and facilities; temporary construction, easements, and barriers for storm water pollution prevention, temporary access and to mitigate construction impacts; project and construction supervision; general conditions, overhead, profit. NOTE: Include contractor's general liability and other insurance related to construction such as builder's risk in Cats. 10 - 50, not in 80 Professional Services below.
50 SYSTEMS		Include all construction materials and labor regardless of whom is performing the work.
50.01	Train control and signals	
50.02	Traffic signals and crossing protection	Include signal prioritization at intersections.
50.03	Traction power supply: substations	
50.04	Traction power distribution: catenary and third rail	
50.05	Communications	Include passenger information systems at stations and on vehicles (real time travel information; static maps and schedules). Include equipment to allow communications among vehicles and with central control.
50.06	Fare collection system and equipment	Include fare sales and swipe machines, fare counting equipment.
50.07	Central Control	
Construction Subtotal (10 - 50)		

60 ROW, LAND, EXISTING IMPROVEMENTS		Include professional services associated with the real estate component of the project. These costs may include agency staff oversight and administration, real estate and relocation consultants, legal counsel, court expenses, insurance, etc.
60.01	Purchase or lease of real estate	If the value of right-of-way, land, and existing improvements is to be used as local match to the Federal funding of the project, include the total cost on this line item. In backup documentation, separate cost for land from cost for improvements. Identify whether items are leased, purchased or acquired through payment or for free. Include the costs for permanent surface and subsurface easements, trackage rights, etc.
60.02	Relocation of existing households and businesses	In compliance with Uniform Relocation Act.
70 VEHICLES (number)		Include professional services associated with the vehicle component of the project. These costs may include agency staff oversight and administration, vehicle consultants, design and manufacturing contractors, legal counsel, warranty and insurance costs, etc.
70.01	Light Rail	Include light rail and streetcar rail using electric, diesel or other power supply.
70.02	Heavy Rail	
70.03	Commuter Rail	Include locomotives (diesel, electric, or other), trailer cars, self-propelled multiple units (EMU electric or DMU diesel, or other power supply)
70.04	Bus	Includes "rubber-tired" buses and trolleys including new, used, historic replica, articulated, using electric, diesel, dual-power, or other power supply.
70.05	Other	Include Vans, Sedan/Station Wagon, Cable Car, People Mover, Monorail, Car/Inclined Railway, Ferry Boat, Transferred Vehicle
70.06	Non-revenue vehicles	
70.07	Spare parts	
80 PROFESSIONAL SERVICES		See Cats. 60 and 70 for professional services related to ROW/Land and Vehicles.
80.01	Preliminary Engineering	Cat. 80 includes all professional, technical and management services (and related professional liability insurance costs) related to the design and construction of fixed infrastructure (Cats. 10 - 50) during the preliminary engineering, final design, and construction phases of the project. This includes environmental work, design, engineering and architectural services; specialty services such as safety or security analyses; value engineering, risk assessment, cost estimating, scheduling, Before and After studies, ridership modeling and analyses, auditing, legal services, administration and management, etc. by agency staff or outside consultants. As required, use back-up worksheets to track detailed costs within each of the line items. <i>(Note that costs for alternatives analysis and NEPA work done before FTA approval to enter preliminary engineering (PE), regardless of funding source, are not included in an FFGA and therefore, should not be included in the Standard Cost Category worksheets. For example, on one and the same grant, costs incurred prior to FTA approval to enter PE should be omitted from these worksheets whereas costs incurred after FTA approval to enter PE should be included.)</i>
80.02	Final Design	
80.03	Project Management for Design and Construction	
80.04	Construction Administration & Management	
80.05	Insurance	
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	
80.07	Surveys, Testing, Investigation, Inspection	
80.08	Start up	
Subtotal (10 - 80)		
90 UNALLOCATED CONTINGENCY		Includes unallocated contingency, project reserves. Document allocated contingencies for individual line items on the Main worksheets.
Subtotal (10 - 90)		
100 FINANCE CHARGES		Include finance charges expected to be paid by the project sponsor/grantee prior to either the completion of the project or the fulfillment of the New Starts funding commitment, whichever occurs later in time. Finance charges incurred after this date should not be included in Total Project Cost. (See FFGA Circular FTA C5200.1A Chapter III for additional information.) Derive finance charges from the New Starts project's financial plan, based on an analysis of the sources and uses of funds. The amount and type of debt financing required and revenues available determine the finance charges. By year, compute finance charges in year-of-expenditure (YOE) dollars. On the Inflation Calculation to YOE worksheet enter the finance charges for the appropriate years.
Total Project Cost (10 - 100)		

14-Series TEAM Scopes / Activity Line Items

Required for all grants that serve a *Capital Project*

(Rev.10, May 7, 2007)

<p>1. HOW DO THE SCC AND TEAM RELATE? TEAM is for grants management. Many grants can serve a capital project -- e.g. CMAQ, 5307, 5309, etc. The Standard Cost Categories (SCC) are for cost management, day to day as well as at important milestones.</p> <p>To manage capital project costs use the SCC worksheets, back up sheets, detailed cost estimates, etc. At important milestones, "paperclip" the SCC worksheets to the applicable grants in TEAM.</p> <p>TEAM and the SCC support each other but TEAM doesn't duplicate the level of information in the SCC. The idea is to keep grants budgets simple and focus on cost management.</p> <p>2. WHEN SHOULD I USE THE 14-SERIES? Use it for capital projects. For New Starts project, use it from the very first grant that funds Preliminary Engineering, and include all grants issued through the FFGA; these grants may be small or large and may derive funding from diverse sources such as CMAQ, 5307, 5309 Fixed Guideway Mod, 5309 New Starts, Federal Non-Transportation funding from HUD, Defense, etc.</p> <p>3. HOW IS THE 14-SERIES ORGANIZED AND WHY? The 14-Series has only 10 pairs of Scopes and ALIs. This is intentionally simple. Do not mix and match Scopes and ALIs or change the standard text. For example, put only guideway costs under the Guideway Scope. If kept simple, the information will be correct and will produce a reliable database at the program-wide level.</p> <p>4. WHAT'S WITH THE VEHICLES? For now, use 14-Series SCOPE (14070) and 13-Series ALIs.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #e0e0e0;">14010 GUIDEWAY & TRACK ELEMENTS</td> <td></td> </tr> <tr> <td>140110 Guideway & Track Elements</td> <td></td> </tr> <tr> <td style="background-color: #e0e0e0;">14020 STATIONS, STOPS, TERMINALS, INTERMODAL</td> <td></td> </tr> <tr> <td>140220 Stations, Stops, Terminals, Intermodal</td> <td></td> </tr> <tr> <td style="background-color: #e0e0e0;">14030 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN BLDGS</td> <td></td> </tr> <tr> <td>140330 Support Facilities: Yards, Shops, Admin Bldgs</td> <td></td> </tr> <tr> <td style="background-color: #e0e0e0;">14040 SITEWORK & SPECIAL CONDITIONS</td> <td></td> </tr> <tr> <td>140440 Sitework & Special Conditions</td> <td style="border: 1px solid black; text-align: center;">Engineering & Design 13.11.XX</td> </tr> <tr> <td style="background-color: #e0e0e0;">14050 SYSTEMS</td> <td></td> </tr> <tr> <td>140550 Systems</td> <td style="border: 1px solid black; text-align: center;">Purchase - Replacement 13.12.XX</td> </tr> <tr> <td style="background-color: #e0e0e0;">14060 ROW, LAND, EXISTING IMPROVEMENTS</td> <td></td> </tr> <tr> <td>140660 ROW, Land, Existing Improvements</td> <td style="border: 1px solid black; text-align: center;">Purchase - Expansion 13.13.XX</td> </tr> <tr> <td style="background-color: #e0e0e0;">14070 VEHICLES</td> <td></td> </tr> <tr> <td>13____ Note! Please use the 13-Series ALIs for vehicles.</td> <td style="border: 1px solid black; text-align: center;">Rehabilitation / Rebuild 13.14.XX</td> </tr> <tr> <td style="background-color: #e0e0e0;">14080 PROFESSIONAL SERVICES</td> <td></td> </tr> <tr> <td>140880 Professional Services</td> <td style="border: 1px solid black; text-align: center;">Mid Life Rebuild (Rail) 13.15.XX</td> </tr> <tr> <td style="background-color: #e0e0e0;">14090 UNALLOCATED CONTINGENCY</td> <td></td> </tr> <tr> <td>140990 Unallocated Contingency</td> <td style="border: 1px solid black; text-align: center;">Lease - Replacement 13.16.XX</td> </tr> <tr> <td style="background-color: #e0e0e0;">14100 FINANCE CHARGES</td> <td></td> </tr> <tr> <td>141010 Finance Charges</td> <td style="border: 1px solid black; text-align: center;">Lease - Expansion 13.18.XX</td> </tr> <tr> <td></td> <td style="border: 1px solid black; text-align: center;">Vehicle Overhaul 13.17.00</td> </tr> </table>	14010 GUIDEWAY & TRACK ELEMENTS		140110 Guideway & Track Elements		14020 STATIONS, STOPS, TERMINALS, INTERMODAL		140220 Stations, Stops, Terminals, Intermodal		14030 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN BLDGS		140330 Support Facilities: Yards, Shops, Admin Bldgs		14040 SITEWORK & SPECIAL CONDITIONS		140440 Sitework & Special Conditions	Engineering & Design 13.11.XX	14050 SYSTEMS		140550 Systems	Purchase - Replacement 13.12.XX	14060 ROW, LAND, EXISTING IMPROVEMENTS		140660 ROW, Land, Existing Improvements	Purchase - Expansion 13.13.XX	14070 VEHICLES		13____ Note! 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PROJECT DESCRIPTION - BUILD ALTERNATIVE

(Rev.10, May 7, 2007)

City of Madison, WI
 Transport 2020, Madison, WI
 Application for PE

Today's Date **5/1/08**

Describe elements of the project and/or the entire project to explicate the unit costs shown on the Main Worksheet. As an example -- a project may include ten miles of on-grade guideway and one-quarter mile of aerial structure for a river crossing. Because of its uniqueness within the project, the aerial component (two-tracks) may have a high unit cost when compared with the unit cost for a ten-mile long two-track aerial structure. The unit cost for the longer aerial structure benefits from the economy of scale.

Mention precedents and reference points used in the development of costs for this project. Mention other aspects of this project that were important considerations in estimating costs. These could include the physical context and site constraints; design parameters; institutional, contracting and procurement conditions; project schedule, etc.

Below, expand lines and delete lines as required to accommodate your commentary.

10 GUIDEWAY & TRACK ELEMENTS (route miles)

10.02	Guideway: At-grade semi-exclusive (allows cross-traffic)	The commuter rail system will be constructed almost entirely within an existing railroad right of way from 12/14 in Middleton to Reiner Rd on the west side of Sun Prairie. Most of the existing rail facilities are single track. The frequent service provided in the operating plan requires double track from Hill Farms station to Commercial Ave, just west of the Fair Oaks station, a distance of 8.5 miles. The construction of a second track will require improvements to the grade such as cut/fill and drainage. The right of way provides frequent grade crossings for automotive and pedestrian traffic.
10.04	Guideway: Aerial structure	Several locations require new bridge structures including N. Park St, Yahara River, Starkweather Creek (two sites). The Yahara River structure will be a relatively costly long span two track steel through girder structure due to site conditions. The others are relatively short span single track structures.
10.11	Track: Ballasted	Work includes construction of 18.3 mi of track (136 CWR on timber ties), 6.7 mi of rail replacement with 136 CWR, 6.7 mi of 33% tie replacement and surfacing, and reconstruction of 89 single track grade crossing surfaces.
10.12	Track: Special (switches, turnouts)	22 mainline # 15 turnouts (generally arranged as crossovers), 10 mainline # 10 turnouts (generally for industry use)

20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)

20.01	At-grade station, stop, shelter, mall, terminal, platform	The system includes 17 stations, all of which are configured as double outside platforms, except three which are single platform stations. The platforms will be constructed as 200 ft by 10 ft asphalt surfaces with minimal facilities including two ticket vending machines per platform, electric service, lighting, communications (CCTV, PA, VMS), benches, and signage. Platforms are generally accessible by adjacent streets. The cost of the POP fare collection system is included in the station estimate. Details of ADA access shall be determined in preliminary engineering.
20.07	Elevators, escalators	Monona Ter station requires vertical access including elevator, stairway and two escal. per platform.

30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS

30.01	Administration Building: Office, sales, storage, revenue counting	Admin facilities are not included in the capital cost. The function will be performed in exis. facilities.
30.03	Heavy Maintenance Facility	An allowance is provided for a heavy maintenance facility and yard. Design has not been addressed at this stage. A potential site is available at the WSOR yard at Johnson St.
30.04	Storage or Maintenance of Way Building	MOW and crew layover facilities are provided at 12/14 on the west and Reiner Rd on the east. The Reiner Rd site includes overnight storage tracks and cleaning facilities.

40 SITEWORK & SPECIAL CONDITIONS

40.07	Automobile, bus, van accessways including roads, parking lots	Park and ride facilities are provided at four station sites: Middleton 12/14 - 140 spaces, Hill Farms - 300 spaces, Fair Oaks - 250 spaces, Reiner Rd - 415 spaces Three of the four sites include bus and taxi access for intermodal connectivity.
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50 SYSTEMS

50.01	Train control and signals	The existing railroad operates under track warrant control. A modern centralized traffic control system with wayside signals is required to support the planned operation. The estimate includes interlockings and automatic block signals as depicted in a conceptual block layout on the plans.
50.02	Traffic signals and crossing protection	Estimate provides 4Q or channelized 2Q gates with CWT for 56 crossings under a whistle ban.
50.05	Communications	Station cost includes CCTV, PA, VMS. This line is an allowance for system wide facilities.
50.06	Fare collection system and equipment	Included in station cost.
50.07	Central Control	Included in Communications cost.

Construction Subtotal (10 - 50)

60 ROW, LAND, EXISTING IMPROVEMENTS

60.01	Purchase or lease of real estate	A total of 56 acres of property are required for stations, parking, MOW and layover facilities. Requirements for the maintenance facility have not been defined. Relocations are not expected.
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70 VEHICLES (number)

70.03	Commuter Rail	The operating plan and ridership estimate require a total of 9 operating vehicles with 2 spares. Vehicles are anticipated to operate in single car consits and provide a nominal capacity of 125 seates and room for 90 standing passengers. The vehicles are expected to be low floor, non-FRA compliant DMUs operating under temporal separation with other services. At least two suppliers are currently providing such vehicles in the US market at the estimated price.
70.06	Non-revenue vehicles	Not included in capital costs.
70.07	Spare parts	Included in vehicle estimate.

80 PROFESSIONAL SERVICES

80.01	Preliminary Engineering	Estimated at 3.5% of Sum Categories 10-50.
80.02	Final Design	Estimated at 7.0% of Sum Categories 10-50.
80.03	Project Management for Design and Construction	Estimated at 1.0% of Sum Categories 10-50.
80.04	Construction Administration & Management	Estimated at 8.0% of Sum Categories 10-50.
80.05	Insurance	Not included. Assumed to be included in construction costs.
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	Estimated at 1.0% of Sum Categories 10-50.
80.07	Surveys, Testing, Investigation, Inspection	Estimated at 0.2% of Sum Categories 10-50.
80.08	Start up	Estimated at 2.0% of Sum Categories 10-50.

Subtotal (10 - 80)

90 UNALLOCATED CONTINGENCY

Subtotal (10 - 90)

100 FINANCE CHARGES

Total Project Cost (10 - 100)

Allocated Contingency as % of Base Yr Dollars w/o Cont.
 Unallocated Contingency as % of Subtotal (10 - 80)
 YOE Construction Cost per Mile (X000)
 YOE Total Project Cost per Mile Not Including Vehicles (X000)
 YOE Total Project Cost per Mile (X000)

ANNUALIZED COST-BUILD ALTERNATIVE

(Rev.10, May 7, 2007)

City of Madison, WI

Today's Date **5/1/08**

Transport 2020, Madison, WI

Yr of Base Year \$ 2007

Application for PE

Yr of Revenue Ops 2015

	Quantity	Total Base Year Dollars (X000)	Cat. 80 Prof. Svc. spread proportionally over Cats. 10 - 50 (X000)	Spread Cat. 90 Unalloc. Cont. according to perceived risks (X000)	Revised Total Base Year Dollars (X000)	Years of Useful Life	Annualization Factor (based on 7% rate) [0.07/1 - (1.07)^- no. yrs]	Annualized Cost (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	16.10	55,874	12,314	0	68,188			5,280
10.01 Guideway: At-grade exclusive right-of-way	0.00	0	0	0	0	125	0.0700	0
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	16.00	10,340	2,279	0	12,619	30	0.0806	1,017
10.03 Guideway: At-grade in mixed traffic	0.00	0	0	0	0	20	0.0944	0
10.04 Guideway: Aerial structure	0.10	5,500	1,212	0	6,712	80	0.0703	472
10.05 Guideway: Built-up fill	0.00	0	0	0	0	80	0.0703	0
10.06 Guideway: Underground cut & cover	0.00	0	0	0	0	125	0.0700	0
10.07 Guideway: Underground tunnel	0.00	0	0	0	0	125	0.0700	0
10.08 Guideway: Retained cut or fill	0.00	0	0	0	0	125	0.0700	0
10.09 Track: Direct fixation	0	0	0	0	0	30	0.0806	0
10.10 Track: Embedded	0	0	0	0	0	20	0.0944	0
10.11 Track: Ballasted	35,786	7,887	0	0	43,673	35	0.0772	3,373
10.12 Track: Special (switches, turnouts)	4,248	936	0	0	5,184	30	0.0806	418
10.13 Track: Vibration and noise dampening	0	0	0	0	0	30	0.0806	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	17	19,365	4,268	0	23,633			1,702
20.01 At-grade station, stop, shelter, mall, terminal, platform	17	16,615	3,662	0	20,277	70	0.0706	1,432
20.02 Aerial station, stop, shelter, mall, terminal, platform	0	0	0	0	0	70	0.0706	0
20.03 Underground station, stop, shelter, mall, terminal, platform	0	0	0	0	0	125	0.0700	0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	0	0	0	0	0	70	0.0706	0
20.05 Joint development	0	0	0	0	0	70	0.0706	0
20.06 Automobile parking multi-story structure	0	0	0	0	0	50	0.0725	0
20.07 Elevators, escalators	2,750	606	0	0	3,356	30	0.0806	270
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	11,322	2,495	0	0	13,817			1,001
30.01 Administration Building: Office, sales, storage, revenue counting	0	0	0	0	0	50	0.0725	0
30.02 Light Maintenance Facility	0	0	0	0	0	50	0.0725	0
30.03 Heavy Maintenance Facility	9,750	2,149	0	0	11,899	50	0.0725	862
30.04 Storage or Maintenance of Way Building	1,572	346	0	0	1,918	50	0.0725	139
30.05 Yard and Yard Track	0	0	0	0	0	80	0.0703	0
40 SITEWORK & SPECIAL CONDITIONS	6,752	1,488	0	0	8,240			778
40.01 Demolition, Clearing, Earthwork	0	0	0	0	0	125	0.0700	0
40.02 Site Utilities, Utility Relocation	0	0	0	0	0	125	0.0700	0
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	0	0	0	0	0	125	0.0700	0
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks	0	0	0	0	0	125	0.0700	0
40.05 Site structures including retaining walls, sound walls	0	0	0	0	0	80	0.0703	0
40.06 Pedestrian / bike access and accommodation, landscaping	0	0	0	0	0	20	0.0944	0
40.07 Automobile, bus, van accessways including roads, parking lots	6,752	1,488	0	0	8,240	20	0.0944	778
40.08 Temporary Facilities and other indirect costs during construction	0	0	0	0	0	100	0.0701	0
50 SYSTEMS	57,893	12,759	0	0	70,652			5,716
50.01 Train control and signals	30,531	6,729	0	0	37,260	30	0.0806	3,003
50.02 Traffic signals and crossing protection	26,062	5,744	0	0	31,806	30	0.0806	2,563
50.03 Traction power supply: substations	0	0	0	0	0	50	0.0725	0
50.04 Traction power distribution: catenary and third rail	0	0	0	0	0	30	0.0806	0
50.05 Communications	1,300	287	0	0	1,587	20	0.0944	150
50.06 Fare collection system and equipment	0	0	0	0	0	25	0.0858	0
50.07 Central Control	0	0	0	0	0	30	0.0806	0
Construction Subtotal (10 - 50)	151,206	33,325	0	0	184,531			14,477
60 ROW, LAND, EXISTING IMPROVEMENTS	9,621	0	0	0	9,621			674
60.01 Purchase or lease of real estate	9,621	0	0	0	9,621	125	0.0700	674
60.02 Relocation of existing households and businesses	0	0	0	0	0	125	0.0700	0
70 VEHICLES (number)	11	51,800	0	0	51,800			4,445
70.01 Light Rail	0	0	0	0	0	25	0.0858	0
70.02 Heavy Rail	0	0	0	0	0	25	0.0858	0
70.03 Commuter Rail	11	51,800	0	0	51,800	25	0.0858	4,445
70.04 Bus	0	0	0	0	0	12	0.1259	0
70.05 Other	0	0	0	0	0	12	0.1259	0
70.06 Non-revenue vehicles	0	0	0	0	0	12	0.1259	0
70.07 Spare parts	0	0	0	0	0	12	0.1259	0
80 PROFESSIONAL SERVICES		33,325	0	0				
80.01 Preliminary Engineering		5,152	0	0				
80.02 Final Design		10,302	0	0				
80.03 Project Management for Design and Construction		1,471	0	0				
80.04 Construction Administration & Management		11,774	0	0				
80.05 Insurance		0	0	0				
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		1,471	0	0				
80.07 Surveys, Testing, Investigation, Inspection		294	0	0				
80.08 Start up		2,861	0	0				
Subtotal (10 - 80)		245,952	33,325	0	245,952			19,595
90 UNALLOCATED CONTINGENCY		0	0	0				
Subtotal (10 - 90)		245,952	33,325	0	245,952			19,595

FUNDING SOURCES BY CATEGORY

(Rev.10, May 7, 2007)

City of Madison, WI

Today's Date **5/1/08**

Transport 2020, Madison, WI

Application for PE

	Cost		Funding Summary			60%		80%					
	YOE Cost (X000)	Double-check Total	Federal 5309 New Starts Funds	Federal Other Funds	Local Funds	Federal 5309 New Starts	State (unused PE Match)	Federal Other (pre-FFGA)	RTA Capital Investment	Federal Other	Local	Federal Other	Local
10 GUIDEWAY & TRACK ELEMENTS (route miles)	73,841	73,841	44,305	0	29,537	44,305	0	0	29,537				
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	25,592	25,592	15,355	0	10,237	15,355	0	0	10,237				
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	14,744	14,744	8,846	0	5,898	8,846	0	0	5,898				
40 SITEWORK & SPECIAL CONDITIONS	8,923	8,923	5,354	0	3,569	5,354	0	0	3,569				
50 SYSTEMS	77,991	77,991	46,795	0	31,196	46,795	0	0	31,196				
60 ROW, LAND, EXISTING IMPROVEMENTS	12,228	12,228	7,337	0	4,891	7,337	0	0	4,891				
70 VEHICLES (number)	69,125	69,125	41,475	0	27,650	41,475	0	0	27,650				
80 PROFESSIONAL SERVICES	41,942	41,942	9,790	15,375	16,777	9,790	1,250	15,375	15,527				
90 UNALLOCATED CONTINGENCY	0	0	0	0	0	0	0	0	0				
100 FINANCE CHARGES	12,718	12,718	7,631	0	5,087	7,631	0	0	5,087				
Total Project Cost (10 - 100)	337,106	337,106	186,888	15,375	134,842	186,888	1,250	15,375	133,592	0	0	0	0
Percentage of Total Project Cost	100%		55.4%	4.6%	40.0%	55.4%	0.4%	4.6%	39.6%	0.0%	0.0%	0.0%	0.0%
			55.4%	44.6%									
			100.00%										

FUNDING SOURCES BY YEAR

(Rev.10, May 7, 2007)

City of Madison, WI

Today's Date **5/1/08**

Transport 2020, Madison, WI

Application for PE

			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Project Cost In YOE Dollars Below insert funding sources and amounts for each year	337,106	double check	0	0	0	0	0	0	0	0	0	4,123	5,022	10,073	105,224	116,598	96,065	0	0	0	0	0	0
Federal 5309 New Starts	186,888	187,575									0	892	7,238	22,967	74,570	81,485	336	88	0	0	0	0	0
Local	134,842	143,942									-2,947	589	-2,216	-12,894	30,655	35,113	95,729	-88	0	0	0	0	0
Federal Other	15,375	5,588									2,947	2,642	0	0	0	0	0	0	0	0	0	0	0
Total Project Cost (10 - 100)	337,106	337,106	0	0	0	0	0	0	0	0	0	4,123	5,022	10,073	105,224	116,598	96,065	0	0	0	0	0	0

MAIN WORKSHEET - BASELINE ALTERNATIVE

(Rev.10, May 7, 2007)

City of Madison, WI

Today's Date **5/1/08**

Transport 2020, Madison, WI

Yr of Base Year \$ **2007**

Application for PE

Yr of Revenue Ops **2015**

	Quantity	Base Year Dollars w/o Contingency (X000)	Base Year Dollars Allocated Contingency (X000)	Base Year Dollars TOTAL (X000)	Base Year Dollars Unit Cost (X000)	Base Year Dollars Percentage of Construction Cost	Base Year Dollars Percentage of Total Project Cost	Baseline Alternative Cost Parameters (X000) see New Starts Reporting Instructions for additional info
10 GUIDEWAY & TRACK ELEMENTS (route miles)	14.00	2,120	400	2,520	\$ 180	13%	6%	
10.01 Guideway: At-grade exclusive right-of-way				0				
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)				0				1040/route mile
10.03 Guideway: At-grade in mixed traffic	14.00	2,120	400	2,520	\$ 180			1040/route mile
10.04 Guideway: Aerial structure				0				
10.05 Guideway: Built-up fill				0				
10.06 Guideway: Underground cut & cover				0				
10.07 Guideway: Underground tunnel				0				
10.08 Guideway: Retained cut or fill				0				
10.09 Track: Direct fixation				0				
10.10 Track: Embedded				0				
10.11 Track: Ballasted				0				
10.12 Track: Special (switches, turnouts)				0				
10.13 Track: Vibration and noise dampening				0				
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	69	3,490	900	4,390	\$ 64	22%	10%	
20.01 At-grade station, stop, shelter, mall, terminal, platform	67	3,350	800	4,150	\$ 62			208/station
20.02 Aerial station, stop, shelter, mall, terminal, platform				0				
20.03 Underground station, stop, shelter, mall, terminal, platform				0				
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	2	140	100	240	\$ 120			
20.05 Joint development				0				
20.06 Automobile parking multi-story structure				0				
20.07 Elevators, escalators				0				
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	14.00	0	0	0	\$ -	0%	0%	
30.01 Administration Building: Office, sales, storage, revenue counting				0				
30.02 Light Maintenance Facility				0				
30.03 Heavy Maintenance Facility				0				
30.04 Storage or Maintenance of Way Building				0				
30.05 Yard and Yard Track				0				
40 SITEWORK & SPECIAL CONDITIONS	14.00	5,194	200	5,394	\$ 385	27%	12%	
40.01 Demolition, Clearing, Earthwork				0				
40.02 Site Utilities, Utility Relocation				0				
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments				0				
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks				0				
40.05 Site structures including retaining walls, sound walls				0				
40.06 Pedestrian / bike access and accommodation, landscaping				0				
40.07 Automobile, bus, van accessways including roads, parking lots		5,194	200	5,394				5.2/on-grade space
40.08 Temporary Facilities and other indirect costs during construction				0				
50 SYSTEMS	14.00	5,935	1,500	7,435	\$ 531	38%	17%	
50.01 Train control and signals				0				
50.02 Traffic signals and crossing protection		1,650	500	2,150				26/intersection
50.03 Traction power supply: substations				0				
50.04 Traction power distribution: catenary and third rail				0				
50.05 Communications		4,285	1,000	5,285				12.5/bus and 12.5/sign
50.06 Fare collection system and equipment				0				10.4/bus
50.07 Central Control				0				15.6-26 /bus
Construction Subtotal (10 - 50)	14.00	16,739	3,000	19,739	\$ 1,410	100%	45%	
60 ROW, LAND, EXISTING IMPROVEMENTS	14.00	8,300	1,850	10,150	\$ 725		23%	
60.01 Purchase or lease of real estate		6,300	1,350	7,650				
60.02 Relocation of existing households and businesses		2,000	500	2,500				
70 VEHICLES (number)	9	6,840	300	7,140	\$ 793		16%	
70.01 Light Rail				0				
70.02 Heavy Rail				0				
70.03 Commuter Rail				0				
70.04 Bus	9	6,840	300	7,140	\$ 793			416 conventional or 676 articulated bus
70.05 Other				0				
70.06 Non-revenue vehicles				0				
70.07 Spare parts				0				
80 PROFESSIONAL SERVICES	14.00	3,799	1,390	5,189	\$ 371	26%	12%	Max 35%*Const.Cost
80.01 Preliminary Engineering		586	160	746				
80.02 Final Design		1,172	400	1,572				
80.03 Project Management for Design and Construction		167	200	367				
80.04 Construction Administration & Management		1,339	300	1,639				
80.05 Insurance		0	200	200				
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		167	20	187				
80.07 Surveys, Testing, Investigation, Inspection		33	70	103				
80.08 Start up		335	40	375				
Subtotal (10 - 80)	14.00	35,678	6,540	42,218	\$ 3,016		95%	
90 UNALLOCATED CONTINGENCY				2,111			5%	Max 5%*Subtotal (10 - 80)
Subtotal (10 - 90)	14.00			44,329	\$ 3,166		100%	
100 FINANCE CHARGES				NA				
Total Project Cost (10 - 100)	14.00			44,329	\$ 3,166		100%	
Total Base Year Cost per Mile Not Including Vehicles (X000)					\$2,656			
Allocated Contingency as % of Base Yr Dollars w/o Cont.				18.33%				
Unallocated Contingency as % of Base Yr Dollars w/o Contingency				5.92%				
Total Contingency as % of Base Yr Dollars w/o Contingency				24.25%				
Unallocated Contingency as % of Subtotal (10 - 80)				5.00%				

ANNUALIZED COST-BASELINE ALTERNATIVE

(Rev.10, May 7, 2007)

City of Madison, WI

Today's Date **5/1/08**

Transport 2020, Madison, WI

Yr of Base Year \$ 2007

Application for PE

Yr of Revenue Ops 2015

	Quantity	Total Base Year Dollars (X000)	Cat. 80 Prof. Svc. spread proportionally over Cats. 10 - 50 (X000)	Spread Cat. 90 Unalloc. Cont. according to perceived risks (X000)	Revised Total Base Year Dollars (X000)	Years of Useful Life	Annualization Factor (based on 7% rate) [0.07/1 - (1.07)^- no. yrs]	Annualized Cost (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	14.00	2,520	662	800	3,982			376
10.01 Guideway: At-grade exclusive right-of-way	0.00	0	0	0	0	125	0.0700	0
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	0.00	0	0	0	0	30	0.0806	0
10.03 Guideway: At-grade in mixed traffic	14.00	2,520	662	800	3,982	20	0.0944	376
10.04 Guideway: Aerial structure	0.00	0	0	0	0	80	0.0703	0
10.05 Guideway: Built-up fill	0.00	0	0	0	0	80	0.0703	0
10.06 Guideway: Underground cut & cover	0.00	0	0	0	0	125	0.0700	0
10.07 Guideway: Underground tunnel	0.00	0	0	0	0	125	0.0700	0
10.08 Guideway: Retained cut or fill	0.00	0	0	0	0	125	0.0700	0
10.09 Track: Direct fixation		0	0	0	0	30	0.0806	0
10.10 Track: Embedded		0	0	0	0	20	0.0944	0
10.11 Track: Ballasted		0	0	0	0	35	0.0772	0
10.12 Track: Special (switches, turnouts)		0	0	0	0	30	0.0806	0
10.13 Track: Vibration and noise dampening		0	0	0	0	30	0.0806	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	69	4,390	1,154	500	6,044			427
20.01 At-grade station, stop, shelter, mall, terminal, platform	67	4,150	1,091	500	5,741	70	0.0706	405
20.02 Aerial station, stop, shelter, mall, terminal, platform	0	0	0	0	0	70	0.0706	0
20.03 Underground station, stop, shelter, mall, terminal, platform	0	0	0	0	0	125	0.0700	0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	2	240	63		303	70	0.0706	21
20.05 Joint development		0	0	0	0	70	0.0706	0
20.06 Automobile parking multi-story structure		0	0	0	0	50	0.0725	0
20.07 Elevators, escalators		0	0	0	0	30	0.0806	0
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		0	0	200	200			14
30.01 Administration Building: Office, sales, storage, revenue counting		0	0	0	0	50	0.0725	0
30.02 Light Maintenance Facility		0	0	200	200	50	0.0725	14
30.03 Heavy Maintenance Facility		0	0	0	0	50	0.0725	0
30.04 Storage or Maintenance of Way Building		0	0	0	0	50	0.0725	0
30.05 Yard and Yard Track		0	0	0	0	80	0.0703	0
40 SITEWORK & SPECIAL CONDITIONS		5,394	1,418	200	7,012			662
40.01 Demolition, Clearing, Earthwork		0	0	0	0	125	0.0700	0
40.02 Site Utilities, Utility Relocation		0	0	0	0	125	0.0700	0
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		0	0	0	0	125	0.0700	0
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks		0	0	0	0	125	0.0700	0
40.05 Site structures including retaining walls, sound walls		0	0	0	0	80	0.0703	0
40.06 Pedestrian / bike access and accommodation, landscaping		0	0	0	0	20	0.0944	0
40.07 Automobile, bus, van accessways including roads, parking lots		5,394	1,418	200	7,012	20	0.0944	662
40.08 Temporary Facilities and other indirect costs during construction		0	0	0	0	100	0.0701	0
50 SYSTEMS		7,435	1,955	0	9,390			849
50.01 Train control and signals		0	0	0	0	30	0.0806	0
50.02 Traffic signals and crossing protection		2,150	565	0	2,715	30	0.0806	219
50.03 Traction power supply: substations		0	0	0	0	50	0.0725	0
50.04 Traction power distribution: catenary and third rail		0	0	0	0	30	0.0806	0
50.05 Communications		5,285	1,389	0	6,674	20	0.0944	630
50.06 Fare collection system and equipment		0	0	0	0	25	0.0858	0
50.07 Central Control		0	0	0	0	30	0.0806	0
Construction Subtotal (10 - 50)		19,739	5,189	1,700	26,628			2,328
60 ROW, LAND, EXISTING IMPROVEMENTS		10,150		0	10,150			711
60.01 Purchase or lease of real estate		7,650		0	7,650	125	0.0700	536
60.02 Relocation of existing households and businesses		2,500		0	2,500	125	0.0700	175
70 VEHICLES (number)	9	7,140		411	7,551			951
70.01 Light Rail	0	0		0	0	25	0.0858	0
70.02 Heavy Rail	0	0		0	0	25	0.0858	0
70.03 Commuter Rail	0	0		0	0	25	0.0858	0
70.04 Bus	9	7,140		411	7,551	12	0.1259	951
70.05 Other	0	0		0	0	12	0.1259	0
70.06 Non-revenue vehicles	0	0		0	0	12	0.1259	0
70.07 Spare parts	0	0		0	0	12	0.1259	0
80 PROFESSIONAL SERVICES		5,189						
80.01 Preliminary Engineering		746						
80.02 Final Design		1,572						
80.03 Project Management for Design and Construction		367						
80.04 Construction Administration & Management		1,639						
80.05 Insurance		200						
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.		187						
80.07 Surveys, Testing, Investigation, Inspection		103						
80.08 Start up		375						
Subtotal (10 - 80)		42,218						
90 UNALLOCATED CONTINGENCY		2,111						
Subtotal (10 - 90)		44,329	5,189	2,111	44,329			3,989

Major Capital Project Costs - By Segment

(Rev.10, May 7, 2007)

Project	Transport 2020	Today's Date	12/31/2007	
Location	Madison, WI	Yr of Base Year Dollars	2007	
	Number of Route Miles in the Segment	16.1	Number of Stations	17

Segment No. 1 of 1

(attach plan of segment and typical sections through segment, along with cost estimate per typical section)

	Low costs in Base Yr (X\$000) <i>for potential cost savings*</i>	"Most Likely" cost estimate in Base Yr (X\$000)	High costs in Base Yr Dollars (X\$000) <i>for potential cost increases*</i>
10 GUIDEWAY & TRACK ELEMENTS (route miles)	\$ 38,000	\$ 47,762	\$ 55,874
10.01 Guideway: At-grade exclusive right-of-way			
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	\$ 7,000	\$ 9,400	\$ 10,340
10.03 Guideway: At-grade in mixed traffic			
10.04 Guideway: Aerial structure	\$ 4,000	\$ 5,000	\$ 5,500
10.05 Guideway: Built-up fill			
10.06 Guideway: Underground cut & cover			
10.07 Guideway: Underground tunnel			
10.08 Guideway: Retained cut or fill			
10.09 Track: Direct fixation			
10.10 Track: Embedded			
10.11 Track: Ballasted	\$ 24,000	\$ 29,822	\$ 35,786
10.12 Track: Special (switches, turnouts)	\$ 3,000	\$ 3,540	\$ 4,248
10.13 Track: Vibration and noise dampening			
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	\$ 14,000	\$ 16,346	\$ 19,365
20.01 At-grade station, stop, shelter, mall, terminal, platform	\$ 12,000	\$ 13,846	\$ 16,615
20.02 Aerial station, stop, shelter, mall, terminal, platform			
20.03 Underground station, stop, shelter, mall, terminal, platform			
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.			
20.05 Joint development			
20.06 Automobile parking multi-story structure			
20.07 Elevators, escalators	\$ 2,000	\$ 2,500	\$ 2,750
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	\$ 8,000	\$ 8,810	\$ 11,322
30.01 Administration Building: Office, sales, storage, revenue counting			
30.02 Light Maintenance Facility			
30.03 Heavy Maintenance Facility	\$ 7,000	\$ 7,500	\$ 9,750
30.04 Storage or Maintenance of Way Building	\$ 1,000	\$ 1,310	\$ 1,572
30.05 Yard and Yard Track			
40 SITEWORK & SPECIAL CONDITIONS	\$ 4,500	\$ 5,194	\$ 6,752
40.01 Demolition, Clearing, Earthwork			
40.02 Site Utilities, Utility Relocation			
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments			
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks			
40.05 Site structures including retaining walls, sound walls			
40.06 Pedestrian / bike access and accommodation, landscaping			
40.07 Automobile, bus, van accessways including roads, parking lots	\$ 4,500	\$ 5,194	\$ 6,752
40.08 Temporary Facilities and other indirect costs during construction			
60 ROW, LAND, EXISTING IMPROVEMENTS	\$ 6,000	\$ 7,401	\$ 9,621
60.01 Purchase or lease of real estate	\$ 6,000	\$ 7,401	\$ 9,621
60.02 Relocation of existing households and businesses			
TOTAL SEGMENT COST	\$ 70,500	\$ 85,513	\$ 102,934
<p>The conceptual design work performed to date is sufficient to provide a relatively high level of certainty to the estimate quantities for civil elements of the locally preferred alternative. To a great extent, this is facilitated by the existance of the current railroad right of way. In recent years material prices have shown dramatic increases due to increasing demand for basic commodities such as steel and concrete in developing countries. Coupled with the recent decline in the value of the dollar, a significant risk exists that the unit costs will rise significantly from those used in the base estimate. However, there also exists some likelihood of a recession or period of low growth in the US of the next few years, which could serve to depress the prices charged by suppliers and contractors.</p>		<p>Using costs from this column, total <i>all</i> segments and insert into Main Worksheet Base Yr Dollars Total (X\$000)</p>	

Major Capital Project Costs - Project-wide				(Rev.10, May 7, 2007)	
Project	Transport 2020			Today's Date	12/31/2007
Location	Madison, WI			Yr of Base Year Dollars	2007
Total Number of Route Miles in Project			16.1	Number of Stations	17
Project-wide Costs					
			Low costs in	"Most Likely" cost	High costs
			Base Yr (X\$000)	estimate in Base Yr	in Base Yr Dollars
			<i>for potential cost</i>	<i>(X\$000)</i>	<i>(X\$000) for potential</i>
			<i>savings*</i>		<i>cost increases*</i>
50 SYSTEMS			\$ 35,500	\$ 44,533	\$ 57,893
50.01 Train control and signals			\$ 20,000	\$ 23,485	\$ 30,531
50.02 Traffic signals and crossing protection			\$ 15,000	\$ 20,048	\$ 26,062
50.03 Traction power supply: substations					
50.04 Traction power distribution: catenary and third rail					
50.05 Communications			\$ 500	\$ 1,000	\$ 1,300
50.06 Fare collection system and equipment					
50.07 Central Control					
70 VEHICLES (number)			\$ 38,500	\$ 40,700	\$ 52,910
70.01 Light Rail					
70.02 Heavy Rail					
70.03 Commuter Rail			\$ 35,000	\$ 37,000	\$ 48,100
70.04 Bus					
70.05 Other					
70.06 Non-revenue vehicles					
70.07 Spare parts					
80 PROFESSIONAL SERVICES			\$ 25,200	\$ 27,840	\$ 33,325
80.01 Preliminary Engineering			\$ 4,000	\$ 4,293	\$ 5,152
80.02 Final Design			\$ 8,000	\$ 8,585	\$ 10,302
80.03 Project Management for Design and Construction			\$ 1,000	\$ 1,226	\$ 1,471
80.04 Construction Administration & Management			\$ 9,000	\$ 9,812	\$ 11,774
80.05 Insurance				\$ -	\$ -
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.			\$ 1,000	\$ 1,226	\$ 1,471
80.07 Surveys, Testing, Investigation, Inspection			\$ 200	\$ 245	\$ 294
80.08 Start up			\$ 2,000	\$ 2,453	\$ 2,861
90 UNALLOCATED CONTINGENCY					
100 FINANCE CHARGES					
TOTAL PROJECT-WIDE COST			\$ 99,200	\$ 113,073	\$ 144,128
<p>The conceptual design work performed to date is sufficient to provide a relatively high level of certainty to the estimate quantities for train control, grade crossing warning systems and vehicles. In recent years material prices have shown dramatic increases due to increasing demand for basic commodities such as steel and concrete in developing countries. Coupled with the recent decline in the value of the dollar, a significant risk exists that the unit costs will rise significantly from those used in the base estimate. This is particularly true for vehicles which include a large European content. However, there also exists some likelihood of a recession or period of low growth in the US of the next few years, which could serve to depress the prices charged by suppliers and contractors. At this stage of the design, it is particularly difficult to estimate the value of professional services. A reasonable range has been offered based on the anticipated construction cost and typical industry benchmarks.</p>			<p>Insert costs from this column into Main Worksheet Base Yr Dollars Total (X\$000)</p>		

Attachment 3
Baseline Cost Estimate

Project Sponsor Name
Project Name

Table 1 - BCE by Standard Cost Category

<i>Applicable Line Items Only</i>	YOE Dollars Total (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	73,841
10.01 Guideway: At-grade exclusive right-of-way	0
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	13,665
10.03 Guideway: At-grade in mixed traffic	0
10.04 Guideway: Aerial structure	7,269
10.05 Guideway: Built-up fill	0
10.06 Guideway: Underground cut & cover	0
10.07 Guideway: Underground tunnel	0
10.08 Guideway: Retained cut or fill	0
10.09 Track: Direct fixation	0
10.10 Track: Embedded	0
10.11 Track: Ballasted	47,294
10.12 Track: Special (switches, turnouts)	5,614
10.13 Track: Vibration and noise dampening	0
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	25,592
20.01 At-grade station, stop, shelter, mall, terminal, platform	21,958
20.02 Aerial station, stop, shelter, mall, terminal, platform	0
20.03 Underground station, stop, shelter, mall, terminal, platform	0
20.04 Other stations, landings, terminals: Intermodal, ferry, trolley, etc.	0
20.05 Joint development	0
20.06 Automobile parking multi-story structure	0
20.07 Elevators, escalators	3,634
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	14,744
30.01 Administration Building: Office, sales, storage, revenue counting	0
30.02 Light Maintenance Facility	0
30.03 Heavy Maintenance Facility	12,697
30.04 Storage or Maintenance of Way Building	2,047
30.05 Yard and Yard Track	0
40 SITEWORK & SPECIAL CONDITIONS	8,923
40.01 Demolition, Clearing, Earthwork	0
40.02 Site Utilities, Utility Relocation	0
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatment	0
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks	0
40.05 Site structures including retaining walls, sound walls	0
40.06 Pedestrian / bike access and accommodation, landscaping	0
40.07 Automobile, bus, van accessways including roads, parking lots	8,923
40.08 Temporary Facilities and other indirect costs during construction	0
50 SYSTEMS	77,991
50.01 Train control and signals	41,130
50.02 Traffic signals and crossing protection	35,110
50.03 Traction power supply: substations	0
50.04 Traction power distribution: catenary and third rail	0
50.05 Communications	1,751
50.06 Fare collection system and equipment	0
50.07 Central Control	0
Construction Subtotal (10 - 50)	201,092
60 ROW, LAND, EXISTING IMPROVEMENTS	12,228
60.01 Purchase or lease of real estate	12,228
60.02 Relocation of existing households and businesses	0
70 VEHICLES (number)	69,125
70.01 Light Rail	0
70.02 Heavy Rail	0
70.03 Commuter Rail	69,125
70.04 Bus	0
70.05 Other	0
70.06 Non-revenue vehicles	0
70.07 Spare parts	0
80 PROFESSIONAL SERVICES	41,942
80.01 Preliminary Engineering	6,484
80.02 Final Design	12,966
80.03 Project Management for Design and Construction	1,851
80.04 Construction Administration & Management	14,818
80.05 Insurance	0
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.	1,851
80.07 Surveys, Testing, Investigation, Inspection	370
80.08 Start up	3,601
Subtotal (10 - 80)	324,387
90 UNALLOCATED CONTINGENCY	0
Subtotal (10 - 90)	324,387
100 FINANCE CHARGES	12,718
Total Project Cost (10 - 100)	337,106

Attachment 3
Baseline Cost Estimate

Project Sponsor Name
Project Name

Table 2 - Inflated Cost to Year of Expenditure

	Base Year Dollars w/o Contingency (X000)	Base Year Dollars Allocated Contingency (X000)	Base Year Dollars TOTAL (X000)	Inflation Factor	YOE Dollars Total (X000)
10 GUIDEWAY & TRACK ELEMENTS (route miles)	47,762	8,112	55,874	1.3216	73,841
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	16,346	3,019	19,365	1.3216	25,592
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	8,810	2,512	11,322	1.3022	14,744
40 SITEWORK & SPECIAL CONDITIONS	5,194	1,558	6,752	1.3216	8,923
50 SYSTEMS	44,533	13,360	57,893	1.3472	77,991
60 ROW, LAND, EXISTING IMPROVEMENTS	7,401	2,220	9,621	1.2710	12,228
70 VEHICLES (number)	40,700	11,100	51,800	1.3345	69,125
80 PROFESSIONAL SERVICES	27,840	5,485	33,325	1.2586	41,942
90 UNALLOCATED CONTINGENCY			0	#DIV/0!	0
100 FINANCE CHARGES			9,356	1.3593	12,718
Total Project Cost (10 - 100)			255,308	1.3204	337,106

Attachment 3
Baseline Cost Estimate

Project Sponsor Name
Project Name

Table 3 - BCE by Source of Funding

	Total Project Cost in YOE Dollars (X000)	Double Check Total (X000)	Federal 5309 New Starts	Federal Other	Local
10 GUIDEWAY & TRACK ELEMENTS (route miles)	73,841	0			
20 STATIONS, STOPS, TERMINALS, INTERMODAL (number)	25,592	0			
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	14,744	0			
40 SITEWORK & SPECIAL CONDITIONS	8,923	0			
50 SYSTEMS	77,991	0			
60 ROW, LAND, EXISTING IMPROVEMENTS	12,228	0			
70 VEHICLES (number)	69,125	0			
80 PROFESSIONAL SERVICES	41,942	0			
90 UNALLOCATED CONTINGENCY	0	0			
100 FINANCE CHARGES	12,718	0			
Total Project Cost (10 - 100)	337,106	0	0	0	0

Sources of Federal Funding and Matching Share Ratios				
	Costs Attributed to Source of Funds (X000)	Federal/ Local Matching Ratio within Source	All Federal Funds (X000)	Local Funds (X000)
Federal 5309 New Starts				
Federal Other (pls say what..)				
Total	0		0	0
Overall Federal Share of Project		#DIV/0!		
New Starts Share of Project		0.00%		

5.0 Mobility and Cost Effectiveness

5.0 Mobility and Cost Effectiveness

This section provides measures of Transport 2020's mobility improvements and cost effectiveness. Inputs for these measures are obtained from the travel demand forecasts (see Section 3.0) and from the SCC and O&M cost model (see Section 4.0).

■ 5.1 Mobility Improvements

Four measures of mobility improvements are calculated for Transport 2020 and reported in the Mobility and Cost Effectiveness Template provided at the end of this section. Those mobility measures are:

1. Normalized travel time savings – transportation system user benefits per passenger mile;
2. Number of transit dependents using the project;
3. Transit dependent user benefits per passenger mile; and
4. Share of user benefits received by transit dependents compared to the share of transit dependents in the region.

Each of these measures is calculated automatically using data entered into the Travel Forecasts Templates.

■ 5.2 Cost Effectiveness

Two measures of cost effectiveness are calculated and reported for Transport 2020:

- Incremental cost per hour of transportation system user benefits; and
- Incremental cost per incremental passenger in forecast year.

These measures also are calculated and reported in the Mobility and Cost Effectiveness Template using data from the Travel Forecasts Template and input data on Baseline and Build capital and O&M costs.

6.0 Transit-Supportive Existing Land Use and Future Patterns

6.0 Transit-Supportive Existing Land Use and Future Patterns

This criterion addresses the existing and future land use in the Transport 2020 corridor. The Supplemental Land Use Information Template provided at the end of this section addresses each of the three primary rating categories for transit-supportive land use and all associated factors and subfactors. The Quantitative Land Use Information Template provides quantitative land use information for the metropolitan area, central business district (CBD), and corridor for the base year (2000) and forecast year (2030).

■ 6.1 Supporting Documentation

Key supporting documentation for this information is listed below. This supporting documentation has been provided directly to FTA’s assigned land use contractor for the Transport 2020 project.

	Document/Information	Date	Web Site
	Project Documents		
	Transport 2020 Transit Supportive Land Use Report	Feb. 2007	http://www.transport2020.net/
	Transport 2020 Real Estate Market Analysis Report	Nov. 2006	http://www.transport2020.net/
	Transport 2020 Summary of Land Use Workshops	May 2006	http://www.transport2020.net/
	City of Madison		
	Planning Department Web Site	2007	http://www.ci.madison.wi.us/planning/ http://www.ci.madison.wi.us/planning/plan.html
	Comprehensive Plan	2006	http://www.ci.madison.wi.us/planning/comp/plan.html
	Capitol Gateway Corridor Plan	2007	http://www.cityofmadison.com/planning/ndp/index.html
	Spring Harbor Plan	2006	http://www.cityofmadison.com/planning/ndp/index.html
	East Rail Corridor Plan	2004	http://www.cityofmadison.com/planning/unit_planning/mast

Document/Information	Date	Web Site
		er_plans/e_rail_corridor/plan2.html
Pedestrian Plan	1997	http://www.cityofmadison.com/trafficEngineering/programsPlanTransportation.cfm
Zoning Ordinance	2007	http://www.municode.com/resources/gateway.asp?pid=50000&sid=49
Parking (information)	2007	http://www.ci.madison.wi.us/parking/parking.html
Facade Improvement Program (information)	2007	http://www.ci.madison.wi.us/planning/facade.html
Tax Increment Districts (information)	2007	http://www.cityofmadison.com/planning/TIF.html
Urban Design Guidelines for Downtown Madison		
Ordinance re: Large Retail Developments		
Park Street Corridor Urban Design Guidelines	2004	
Participating in the Development Process: A Best Practices Guide for Developers, Neighborhoods & Policymakers	2005	http://www.ci.madison.wi.us/planning/
Village of Shorewood Hills		
Comprehensive Plan	2006 (draft)	http://www.shorewood-hills.org/comprehensive_plan/
Zoning Ordinance	2007	http://www.shorewood-hills.org/ordinance ^{s/ordinances-1.htm}
City of Middleton		
Comprehensive Plan	2006	http://www.ci.middleton.wi.us/plans/plans.htm
Zoning Ordinance	2007	http://www.ci.middleton.wi.us/ordinances/ordinances.htm
Highway 12 Corridor Redevelopment Master Plan	2002	http://www.ci.middleton.wi.us/Projects/Hwy12/Hwy12_plans.htm
Request for Proposals for Creation of a Neighborhood Plan for the Parmenter Street Corridor	July 2007	
Photographs of Downtown Middleton Development	2004	
Economic Development Programs (web site)		http://www.ci.middleton.wi.us/EconDev/EconDev.htm

	Document/Information	Date	Web Site
	University of Wisconsin		
	Campus Master Plan	2005	http://www.uc.wisc.edu/masterplan/about.html
	Parking information	2007	http://www2.fpm.wisc.edu/trans/Parking/index.htm
	Dane County		
	Comprehensive Plan	October 18, 2007	http://www.daneplan.org/
	BUILD Program information	2007	http://www.co.dane.wi.us/plandev/community/build/
	Transfer of Development Rights (proposed ordinance amendment)	December 20, 2007	
	Madison Metropolitan Planning Organization		
	County-MPO Boundary Map	2007	http://www.madisonareampo.org/Maplist.htm
	State of Wisconsin		
	Comprehensive Planning Law Factsheet		http://www.doa.state.wi.us/category.asp?linkcatid=743&linkid=128&locid=9
	Development Projects		
	Tribeca Village		http://www.twallproperties.com/index.asp?menuID=147&firstlevelmenuID=109
	Capitol West		http://www.capitol-west.com/modules/web/index.php/id/3
	Union Corners		http://www.unioncorners.com/Templates/union_corners_siteplan.htm
	Hilldale Mall		http://www.hilldale.com/redev/redevelopment.html
	University Square		http://www.news.wisc.edu/10515

Information Requested	Documentation Supporting Land Use Criterion
<p>1. EXISTING LAND USE a. Existing Land Use</p>	
<p>Existing corridor and station area development</p>	<p>Overview</p> <p>The proposed Madison Transport 2020 project includes 17 stations, 15 of which lie partially or fully within the boundaries of the City of Madison. Madison is the central city of a region characterized by distinct urban villages and cities and high quality farmlands and natural areas. Madison is Wisconsin’s second largest city, with a year 2000 population of 208,000, and is the state capital. The City’s geography is unique. Its downtown core, including the Capitol building, is situated on a narrow isthmus between Lake Mendota to the west and Lake Monona to the east. The City is also home to the main campus of the University of Wisconsin, approximately one mile west of the Capitol on the south shore of Lake Mendota. A combination of factors including the compact and linear form of downtown, the large student population, and progressive attitudes in the city regarding bicycling, walking, and environmental protection have created a significant market for travel by transit and other alternative modes.</p> <p>Less than three miles west of downtown Madison on the south shore of Lake Mendota is the Village of Shorewood Hills, which would be served by three proposed stations. A primarily residential community with a population of 1,700, Shorewood Hills is landlocked and is bordered on its west, south, and east sides by the City of Madison.</p> <p>The City of Middleton (population 17,000) is served by the two westernmost stations on the proposed rail line. A thriving and growing suburb, Middleton was originally founded in the mid-1800s as a railroad town on what is now the Wisconsin Southern right-of-way (the same right-of-way proposed for the Madison Transport 2020 project).</p> <p>Portions of two station areas at the east end of the corridor fall within the unincorporated territory of Dane County. Dane County encompasses 60 municipalities and has planning jurisdiction over unincorporated municipalities, including townships. The Census-defined Madison metropolitan statistical area is contiguous with Dane County while the Madison MPO transportation planning area is a subset of the County. The attached map of Dane County shows the county, MPO, urbanized area, and incorporated area boundaries.</p> <p>Population and Employment</p> <p>The Madison metropolitan area includes an estimated total population of 427,000 and 278,000 jobs, with growth rates of 35 to 36 percent projected by 2030. Total population and employment in the study corridor are estimated at 161,500 and 165,300, respectively, and are forecast to grow by 17 to 24 percent by the year 2030. The Madison central business district (CBD) has an estimated total employment of 30,500, concentrated in a compact area of less than a square mile on the isthmus between Lakes Mendota and Monona. Furthermore, the CBD does not include the University of Wisconsin campus, which is located approximately one mile west of the downtown along the proposed rail corridor.</p> <p>Total population served within a ½ mile radius of all station areas is estimated to be 59,100, while total employment served is estimated to be 84,500. Overall population and employment densities are moderate, averaging 5,700 persons per square mile and 8,100 jobs per square mile, respectively, across all station areas. Population densities are highest in the area between the UW campus and the CBD, with three stations exceeding 8,000 residents per square mile. Station area population and employment are forecast to grow by 16 and six percent, respectively, by 2030.</p>

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	<p>High Trip Generators</p> <p>In addition to serving a variety of neighborhoods and employment centers in Madison and surrounding communities, the Madison Transport 2020 project would serve a number of high trip generators. These include:</p> <ul style="list-style-type: none"> • The State Capitol is served by the Monona Terrace and Hancock Street stations. In addition to the Capitol building, these station areas include several institutional and cultural buildings like the City Library, the City Senior Center, the Convention Center and several museums. The State, County and City offices are also located here along with a variety of other private offices. • The Frank Lloyd Wright-inspired Monona Terrace Community and Convention Center (Monona Terrace station area) is a 250,000 square foot, five-level facility on Lake Monona that attracts nearly 400,000 visitors annually. The Center is open to the public during daytime hours and includes a rooftop terrace and garden. • The University of Wisconsin (UW) is served by three proposed stations – UW/VA Hospitals, Union South, and Park St./Kohl Center. The university has a total enrollment of over 41,000 undergraduates and graduates, along with just over 2,000 faculty members. • Camp Randall Stadium is located on the south side of the UW campus and accessible to the Union South station. Home to UW’s football team, the Wisconsin Badgers, the stadiums has a capacity of over 80,000 and is typically sold out. • The Veterans Administration (VA) hospital is served by the UW/VA Hospitals Station. The VA hospital employs just over 1,000 people and serves over 34,000 veterans annually. • The Hill Farms station area includes Hilldale Mall, a major regional shopping mall; Federal government offices; and several State offices including the Department of Transportation and the Crime Lab.
<p>Existing corridor and station area development character</p>	<p>A description of each station area is provided below by corridor subarea, based on the subareas defined in the <i>Transit Supportive Land Use Report</i> conducted for the Madison Transport 2020 project.</p> <p>Starting from the west, the first two stations - the Highway 12/14 Park and Ride Station and Downtown Middleton – serve the City of Middleton, a fast growing suburb of Madison. The two station areas offer varying intensities and types of development.</p> <ul style="list-style-type: none"> • 12/14 Park and Ride - A park-and-ride station is being proposed at the west end of Middleton near Highway 12 (West Beltline Highway) and Highway 14. This station location is auto-oriented, containing mostly highway oriented commercial, office parks and hotels. A significant part of the station area has environmental constraints and is preserved as a conservation area. There is limited residential development in the station area west of the highway. Several apartment complexes are located southwest of the station area near Greenway Station, a commercial center containing over 350,000 square feet of retail space occupied by national and local retailers and restaurants. While the prevalent development pattern in the station area is not supportive of walk-access, it is suitable for a large park-and ride facility serving the surrounding suburban areas. • Downtown Middleton - This station is being proposed near Parmenter Street in the CBD of Middleton which contains a range of commercial and employment uses in a traditional, pedestrian friendly, downtown environment. Most of the downtown development is in low-rise (2-3 stories) and single story buildings. The CBD is surrounded by residential neighborhoods including mainly single-family homes

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	<p>and two low-rise multi-family residential developments. The core CBD area in downtown Middleton has a moderately dense and interconnected street network with many pedestrian amenities. To the south of the downtown, most residential areas have sidewalks but are laid out on a curvilinear street pattern with cul-de-sacs resulting in limited connectivity.</p> <p>The Hill Farms subarea, located just west of the University of Wisconsin, is an active, urban corridor. Centered on University Avenue, a major east-west thoroughfare in Madison, it is experiencing significant intensification through new infill development and redevelopment of older, obsolete buildings. Three stations are proposed within this corridor: Hill Farms/Whitney Way, Midvale Boulevard and Shorewood Boulevard.</p> <ul style="list-style-type: none"> • Hill Farms/Whitney Way – The Hill Farms Station is proposed near the intersection of Whitney Way and Old Middleton Road, just south of University Avenue. This station area contains a mix of residential (both single-family and multi-family neighborhoods), commercial and office development. Commercial and office uses are concentrated along University Avenue in neighborhood-scale centers. A park-and-ride lot is proposed at this station location. • Midvale Blvd. – Proposed near the railroad intersection with Midvale Boulevard, the south side of this station is located in Madison and the north side in the Village of Shorewood Hills. Towards the north, most of the station area within Shorewood Hills consists of higher-end single-family homes. South of University Avenue, more modest single family homes are present east of Midvale Boulevard. There are several large multi-family developments near the Hilldale Mall and towards the west end where the station area overlaps with the Hill Farms station area. Commercial and employment uses are present along the University Avenue frontage. The Hilldale Mall, along with the retail development across University Avenue, is a strong retail node. This station area is also a strong employment center. Federal government offices and several state offices including the Department of Transportation and the Crime Lab are located here. • Shorewood Blvd. – The Shorewood Boulevard Station is proposed near the intersection of Shorewood Boulevard and the railroad. Like the Midvale Boulevard station, this station area lies in both Madison and Shorewood Hills. Besides commercial development along University Avenue, this station area is mostly residential. <p>In general, the low-density areas in this subarea are mostly located in the Village of Shorewood Hills. The highest density areas are in the multi-family developments in the Hill Farms/Whitney Way station area. Moderate population densities are present north of University Avenue in the Hill Farms/Whitney station area and south of University Avenue in the other station areas reflecting the smaller lot sizes of these older, modest neighborhoods and the presence of multi-family dwellings including duplexes and four-unit structures. The station areas lack an interconnected street network and continuous sidewalks and therefore have limited pedestrian access. The street network within the residential neighborhoods in Madison is moderately dense and well connected. The residential area in Shorewood Hills, however, has long curvilinear blocks with some dead-end streets and few access points to the neighborhoods south of the railroad, limiting connectivity. The station areas include several large multi-family and commercial developments that occupy large parcels. These developments break the street grid disrupting connectivity within the corridor. Several of the older, established residential neighborhoods have sidewalks and present a quiet, pedestrian friendly street environment. University Avenue is a wide busy thoroughfare lacking in pedestrian friendly features.</p>

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	<p>The University subarea serves the University of Wisconsin Campus and Madison’s near west side neighborhoods. This subarea is experiencing significant intensification as the University is expanding to meet its future space needs within the existing boundaries, through infill development and higher density redevelopment of older, obsolete structures. Three stations are proposed within this subarea: UW/VA Hospitals, Union South, and Park Street/Kohl Center.</p> <ul style="list-style-type: none"> • UW/VA Hospitals – This station is proposed near the University of Wisconsin and Veterans Administration hospitals. A significant part of the station area north of University Avenue is occupied by the hospitals and the University campus. West of the hospitals, most of the station area consists of single-family residences within the Village of Shorewood Hills. A medical offices complex known as Doctors’ Park is located along University Avenue. The University Avenue frontage on the south side contains a variety of commercial uses and multi-family apartments occupied mostly by students. Further south, the station area is mostly residential containing established single-family neighborhoods. West High School is also located within the station area. • Union South – The Union South Station is proposed near the South Randall Road intersection proximate to Camp Randall Stadium and Union South, the student union building for the west campus area. Most of this station area is within the University campus and houses a range of University functions. • Park St./Kohl Center – The Park Street/Kohl Center Station is proposed near the southwestern edge of the University Campus on the south side of the sporting arena on Park Street. A significant part of the station area is within the University campus; the remaining area is mostly residential. The northern part of the station area is mostly student housing containing a mix of older two-flats to newly constructed high-rise apartments and condominiums. South of Kohl Center, the station area consists of modest 2-3 unit dwellings. <p>Although there are some low-density population areas, most of the subarea has moderate to high population densities. The highest population densities are found in the areas with the greatest concentration of student housing, University residence halls, and as private apartments in residential neighborhoods. The subarea has an overall dense and well connected street network. Some large uses including Camp Randall and the Kohl Center, which occupy large parcels of land, break the street grid disrupting connectivity. University Avenue, because of its high speed and high volume of traffic, is difficult to cross for vehicles and pedestrians and therefore acts as a barrier between the north and south ends of the station areas. Most of the University subarea, especially the campus, presents a very pedestrian-oriented walkable environment characterized by a dense street network with continuous sidewalks. Within the campus, the streetscape is very pedestrian-oriented with wide sidewalks and well defined crosswalks, use of special pavers to enhance safety and aesthetics, landscaping including shade trees, and pedestrian orientation of buildings. Several of the older, established residential neighborhoods have sidewalks and present a pedestrian friendly street environment.</p> <p>The Capitol subarea runs through downtown Madison providing access to the State Capitol and the CBD. Downtown Madison is a thriving civic, business and residential center supporting high development intensity in a highly pedestrian friendly environment. Its location on the isthmus between Lake Monona and Lake Mendota creates scenic waterfront views throughout the corridor. Downtown Madison has experienced significant redevelopment and intensification over the past several years. This trend is expected to continue, albeit at a slower pace, further increasing the transit supportive character of the area. Three stations are proposed in this corridor – Monona Terrace, Hancock and Paterson.</p>

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	<ul style="list-style-type: none"> • Monona Terrace – The Monona Terrace Station, as the name suggests, is proposed near the Monona Terrace Community and Convention Center. Besides the State Capitol, the station area includes several institutional and cultural buildings like the City Library, the City Senior Center, the Convention Center and several museums. The State, County and City offices are also located here along with a variety of other private offices. Retail and service businesses in the area include restaurants, banks, and convenience stores. Residential uses are mainly high density, including apartments as well as condominium buildings. Single-family neighborhoods are located at the peripheries of the station areas. • Hancock St. – The Hancock Street Station is proposed further east near Hancock and Wilson Streets. It overlaps with many of the same destinations as the Monona Terrace Station. • Paterson St. – The Paterson Street Station, proposed in the near east side near the Paterson Street and the railroad intersection, has a strong residential base. Both single-family and multi-family homes are present in older, walkable neighborhoods near the station. Some neighborhood scale retail is present along East Washington Avenue and further north near the Johnson and Paterson Street intersection. Older industrial uses occupy large blocks between Washington Avenue and Williamson Street. Some of these sites are currently vacant or underutilized creating redevelopment opportunities. <p>For the most part, except the Paterson Street Station which includes low density industrial uses and the area around the Capitol Square, the Capitol subarea has high population densities. The subarea has a dense, interconnected street network with sidewalks, characterized by walkable block lengths especially in the Capitol Square area. The large industrial parcels east of Blair Street and south of East Main Street break the street grid in the Paterson Street station area, reducing connectivity. Roadway intersections are mostly pedestrian-friendly, even on major thoroughfares. Wide sidewalks often with special paving patterns, continuous streetwall created by closely spaced buildings with pedestrian-oriented façade treatments, streetscape improvements like street trees, coordinated wayfinding and signage, and public art all contribute to a high-quality pedestrian environment. The residential neighborhoods along the lakefront have quiet, narrow, tree-lined streets also providing a very comfortable pedestrian environment.</p> <p>The East Isthmus Opportunity subarea serves as the eastern gateway into downtown Madison. The City’s recently adopted comprehensive plan as well as neighborhood plans focus on East Isthmus as a high priority redevelopment area. The plans encourage redevelopment of former industrial uses into higher density employment uses and higher density mixed-uses as infill development that will strengthen the transit-oriented character of the area. Three stations are proposed within this corridor: Baldwin, Schenk-Atwood, and Union Corners.</p> <ul style="list-style-type: none"> • Baldwin St. – The Baldwin Street Station, proposed near Baldwin Street, has a strong residential base. A large part of the half-mile area around the station consists of older, walkable residential neighborhoods containing both modest and larger homes. Several multi-family residences are also present. Some neighborhood-scale retail is present along Williamson Street south of the station and along Washington Avenue. Older industrial uses occupy large blocks between Washington Avenue and Wilson Street. Some of these sites are currently vacant or underutilized creating redevelopment opportunities. The Yahara River runs along the eastern edge of the station area. The Baldwin Street station area has a dense street network within existing residential neighborhoods, with sidewalks on both sides of the street. However, the large industrial parcels south of East Washington Street break the street grid limiting cross connections across the isthmus.

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	<ul style="list-style-type: none"> • Schenk-Atwood – Schenk-Atwood is a vibrant, older near east-side neighborhood. The station is proposed in the heart of the neighborhood, near 2nd and Winnebago Streets. This station area has a strong mix of residential, commercial and employment uses. The immediate station area south of the railroad has a neighborhood-scale business district including local restaurants, convenience stores, banks, professional offices, and a theater. Residential uses are present throughout the station area as upper story apartments in mixed-use buildings in the business district and in residential neighborhoods surrounding the commercial core. In fact, some 200 new residential units, constructed as part of mixed-use developments, have been constructed in this rapidly growing district over the past five years. The Schenk-Atwood area has a consistently a dense interconnected street network with complete sidewalks. Several of the older traditional neighborhoods, with their closely spaced buildings, mix of uses, variety of architecture, relatively narrow streets, and shade trees, have a high-quality pedestrian environment. • Union Corners – The Union Corners Station is proposed at the south end of the former battery factory site, which is being replaced by a mixed-use development adding 350 residential units, the largest redevelopment project in the City of Madison. The station area also has older, moderate income residential neighborhoods containing single family homes, several 2-8 unit buildings, and some multi-family residences. In addition to the development already mentioned in the Schenk-Atwood station area (which overlaps with the Union Corners station area), commercial uses are present along East Washington Avenue west of 6th Street. East High School and Emerson Elementary School are located within the station area, on Washington Street and Johnson Avenue respectively. The Union Corners station area also has a well established and connected street network in the residential areas with complete sidewalks. East Washington through the station area is a high speed, high volume roadway making it difficult for both pedestrians and vehicles to cross. <p>The East Towne subarea extends beyond Interstate 90/94 to the eastern edge of Madison, near the City of Sun Prairie, a fast-growing suburban community. Three stations are proposed within this corridor: Fair Oaks, Lien Road and Reiner Road.</p> <ul style="list-style-type: none"> • Fair Oaks – This station is proposed near the intersection of the railroad and Fair Oaks Avenue, between Milwaukee Street and Commercial Avenue. Besides walk-access, a park-and-ride facility is also proposed at the Fair Oaks Station. Most of the station area west of Fair Oaks and north of the railroad is residential consisting mainly of older, modest single-family neighborhoods. These are laid out on a grid pattern with a well connected and fairly dense street network, although sidewalks are lacking. Some commercial and office uses are located at the intersection of East Washington Avenue (US Highway 151) and Commercial Avenue (State Highway 30). The East Transfer Station, which serves as a major hub for Metro bus routes, is located at the eastern edge of the station area on Milwaukee Street. Starkweather Creek runs south of the railroad and a significant part of this area east of Fair Oaks is covered by wetlands presenting environmental constraints for development. Currently, most of this area is owned by one family and is under agricultural use, although significant redevelopment is planned for the area. • Lien Rd. – The Lien Road Station is proposed south of the East Towne shopping mall near the Lien Road intersection. Commercial uses dominate this station area. Besides the East Towne Mall, several big box retailers are located here. This area is suburban and auto-oriented in character. South of Lien Road, the station area is mostly residential and includes newer single-family residences and apartment buildings. A significant part of the station area in the immediate vicinity of the

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	<p>station remains undeveloped. This area has environmental constraints for development associated with the Starkweather Creek. The Lien Road station area has poor street connectivity, although most of the local residential streets and several collector roadways serving the commercial areas have sidewalks.</p> <ul style="list-style-type: none"> • Reiner Rd./West Sun Prairie – This station is proposed near the Reiner Road intersection north of Nelson Road. A large park-and-ride facility is proposed at this location to serve the suburban residential areas in Madison’s far east side and the City of Sun Prairie. An asphalt plant and a landfill facility are located on Nelson Road just east of Reiner Road. Besides these industrial uses, most of the station area is currently undeveloped. The few roadways in the area generally lack sidewalks.
Existing station area pedestrian facilities, including access for persons with disabilities	<p>A description of pedestrian facilities by station area is included in the above description of station area land use character, and a more detailed description is included in the <i>Transit Supportive Land Use Report</i>. Overall, the availability of pedestrian facilities varies throughout the corridor. Many of the station areas, including those in downtown Madison, Madison’s near east side neighborhoods, the UW campus and surrounding neighborhoods, and downtown Middleton have a complete pedestrian network including sidewalks and signalized and unsignalized pedestrian crossings. In other station areas, including those on Madison’s far east side, the Hill Farms area, and the US 12/14 park-and-ride, sidewalks are present on some but not all residential and commercial streets, and pedestrian crossings are not always readily available.</p> <p>The City has a sidewalk maintenance and improvement program. The program’s goal is to cycle through the City’s entire sidewalk inventory every 10 years to fix trip hazards, install ramps at curbs, and conduct other maintenance and upgrades as necessary. The first 10-year cycle of this program will be completed at the end of 2007. As a result of this program, nearly all intersections are now ramped (although the program does not include major street reconstruction that would be necessary to make sidewalks accessible in a few locations with rough terrain). The City has also been installing accessible sidewalks in older areas of the city that were not originally constructed with sidewalks.</p>
Existing corridor and station area parking supply	<p>The City of Madison provides about 5,000 downtown parking spaces in six ramps, seven lots, and 1,300 on-street spaces. Rates are \$1.25 an hour for on-street spaces and range between \$0.50 and \$1.10 an hour in ramps and lots. Dane County also maintains a 1,000-space downtown ramp at a rate of \$0.85/hour. The downtown is also served by private structures and lots. An inventory of private spaces has not been conducted.</p> <p>At the UW campus, monthly parking permits for faculty and staff range from \$65 to \$95 and annual permits range from \$455 to \$1045. Meters are \$1/hour. Parking is limited and students are discouraged from bringing cars to campus. The University runs a variety of travel demand management (TDM) programs to encourage members of the campus community to use alternative modes of transportation.</p> <p>Parking in other central Madison neighborhoods as well as Downtown Middleton is typically provided on-street or in small off-street lots. There are some larger lots on the UW campus, VA hospital, the Hill Farms area, and serving developments near the U.S. 12/14 Park and Ride Station in Middleton.</p>
<p>2. TRANSIT SUPPORTIVE PLANS AND POLICIES</p> <p>a. Growth Management</p>	
Concentration of development around established activity centers and regional	<p>In 2000, the Wisconsin State Legislature passed the most complete comprehensive planning legislation in Wisconsin's history. Often referred to as “Smart Growth,” the law requires all Wisconsin communities that exercise land use authority to adopt a comprehensive plan by ordinance by 2010, and for land use decisions to be consistent with the adopted plan. The law requires that plans address at least nine specified</p>

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transit	<p>elements and requires that plans be developed through a participatory public process. The Department of Administration administers a grant program to assist communities in the development of comprehensive plans. The program emphasizes multi-jurisdictional projects that foster intergovernmental cooperation.</p> <p>Dane County has been proactive in preparing and adopting regional plans and policies that support growth management within the County. The <i>Dane County Land Use and Transportation Plan</i> was adopted in 1997 to guide development, preservation and transportation decisions in the County through the year 2020. This plan, prepared in cooperation with the former Dane County Regional Planning Commission (now temporarily a part of the Dane County Department of Planning and Development), the City of Madison, and the Wisconsin Department of Transportation, includes a strong commitment towards growth management. The plan includes eleven goals, four of which directly relate to growth management issues:</p> <ul style="list-style-type: none"> • Promote compact urban development, redevelopment, and infill; • Concentrate employment and activity centers along public transit corridors; • Maintain downtown Madison as the region’s major activity center; and • Protect agricultural lands, in part by limiting non-farm development in agricultural areas. <p>To realize the goals set forth in the plan, one of the primary recommendations is to accommodate most of the forecasted population and employment growth within the urban areas of the County. The plan includes a Regional Development Plan Map as a basic framework for directing growth within the region. The framework is made up of three main elements:</p> <ul style="list-style-type: none"> • Urban Service Areas - These are areas in and around existing communities where public services exist or can be easily extended. Most future development, over a period of 20-25 years, is recommended to be located within these areas. Within urban areas, the highest development densities are proposed near transit nodes. The plan provides urban service area boundaries for near-term growth (up to 10 years) and recommends reviewing and adjusting the boundaries in the future to accommodate future growth. • Rural Areas – These are areas outside the urban service areas intended to remain predominantly rural in character. The plan recommends limited or no development in the rural areas, which could include farmland preservation areas as well as non-farmland areas. • Open Space Corridors - These are environmentally sensitive corridors within urban and rural areas that should be protected from development. <p>The plan encourages local governments to incorporate the regional development framework in their planning efforts. It also recommends preparing neighborhood plans for transitional areas at the urban-rural fringe and other areas experiencing growth pressures even though they might not be adequately serviced for development. These plans would help the local governments in managing growth pressures and redirecting development towards areas considered more desirable by the community.</p> <p>The Dane County Board of Supervisors adopted the Dane County Comprehensive Plan on October 18, 2007, which builds upon the previous planning efforts in the County and provides a vision and framework for future development. The plan was developed in concert with 14 communities with the assistance of a grant from the Wisconsin Comprehensive Grant Program.</p> <p>Local plans are increasingly supporting the concept of transit-oriented development (TOD) and identifying areas appropriate for such development. For example, the City</p>

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	<p>of Madison’s 2006 comprehensive plan identifies most of the proposed Transport 2020 station areas as appropriate sites for TOD. This plan also reaffirms and strengthens initiatives already underway by the City to focus new growth in infill and redevelopment areas and to significantly increase the density of development in these areas. Similarly, new comprehensive plans for both Middleton and Shorewood Hills both promote the concepts of compact, mixed-use development in areas served by transit, and the draft Shorewood Hills plan identifies two specific areas in proposed transit station areas that would be appropriate for redevelopment at transit-supportive densities and with a mix of uses. These local comprehensive plans are described in more detail below, under “transit supportive corridor policies.”</p>
<p>Land conservation and management</p>	<p>The State of Wisconsin’s comprehensive planning legislation, as described above, supports land conservation and management by establishing standards for local comprehensive planning and providing incentives for collaborative planning among local jurisdictions. Communities in the Madison region have taken advantage of these incentives to plan for growth management and land preservation across jurisdictional boundaries. For example, in 2004, the City of Middleton signed an intergovernmental agreement with the neighboring Town of Springfield. This agreement included a plan identifying an urban growth area as well as areas for agricultural preservation and resource protection. Dane County and cities and townships west of Madison, including Middleton, also have worked cooperatively to proactively plan for the impacts of improvements to US Highway 12 between Middleton and Sauk City, and to conduct integrated transportation and land use planning for the North Mendota Parkway Corridor connecting USH 12 north of Middleton with Interstate 39/90/94 east of Waunakee.</p> <p>The <i>Dane County Comprehensive Plan</i> incorporates a number of long established county and regional plans built around key planning concepts. Farmland Preservation, Parks and Open Space, Urban Service Areas, and Environmental Corridors form the four foundational planning principles that have influenced land use patterns across Dane County for over 20 years. The <i>Farmland Preservation Plan</i>, adopted by the County Board in 1981, marked the beginning of the county's participation in the state of Wisconsin Farmland Preservation Program, which provides income tax credits to farm owners who keep their property in agricultural use. Several of the unincorporated towns within the County have adopted policies at the local level to implement the recommendations of the Farmland Preservation Plan including the inclusion of an exclusive agriculture zone in their code. Dane County has a long history of implementing the <i>Dane County Parks and Open Space Plan</i> on a voluntary basis, using the County Conservation Fund to purchase properties and conservation easements from willing sellers. First introduced in the 1973 Dane County Land Use Plan, Urban Service Areas represent those areas in and around existing communities most suitable to accommodate urban development.</p> <p>Consistent with the recommendations of the new Dane County comprehensive plan, the County developed a Transfer of Development Rights (TDR) program to support land conservation and concentration of development. The County’s TDR ordinance was adopted by the Dane County Board of Supervisors on December 20, 2007, and creates sending and receiving area overlay districts with standards for transfers. In addition to the adopted TDR ordinance, the 2007 Dane County comprehensive plan recommends developing additional land conservation tools such as Purchase of Agricultural Conservation Easements and Purchase of Development Rights.</p>
<p>2. TRANSIT SUPPORTIVE PLANS AND POLICIES (continued) b. Transit Supportive Corridor Policies</p>	
<p>Plans and policies to increase corridor and</p>	<p>As part of the DEIS and New Starts application phase of the Madison Transport 2020 planning process, the City of Madison undertook an early station area land use</p>

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station area development	<p>planning effort. The product of this effort was the <i>Transit Supportive Land Use Report</i> (February 2007). The report evaluates current land use conditions in station areas, existing plans and policies, and proposed or planned developments. The report includes an assessment of market conditions, documented as Appendix A to the <i>Transit Supportive Land Use Report</i>, which estimates the future residential, commercial and office development potential in each set of station areas over the next 15 years. The report examined stations for each of the various alternatives considered and ranked them based on the New Starts criteria, with the results used as input to the selection of the Locally Preferred Alternative (LPA). The report also makes recommendations appropriate to each station area regarding policy changes and other actions to increase densities and the mix of uses in station areas. The report was developed through meetings, workshops, and interviews with local planners, developers, property owners, and other local stakeholders and real estate market experts.</p> <p>Madison’s most recent <i>Comprehensive Plan</i> (adopted 2006) provides general direction for development in station areas within the City of Madison. The plan also included a more focused set of recommendations for the downtown area, to provide a starting point for future preparation of a downtown plan which is recommended to update the last downtown plan (adopted in 1989). The plan identifies “Potential Transit Oriented Development Areas” to be developed as compact, mixed-use areas with highest development densities in close proximity to transit stops. These areas include including most of the sites proposed to be served by the Madison Transport 2020 project. The plan was developed over four years with extensive opportunities for public input at each stage of plan development.</p> <p>The City of Madison also has a strong tradition of neighborhood-based planning. The City develops neighborhood plans on an ongoing basis, many of which apply to proposed station areas. These plans both respond to and inform the city-wide comprehensive plan. Plans relevant to proposed station areas include:</p> <ul style="list-style-type: none"> • University Avenue subarea – <i>Spring Harbor Neighborhood Plan</i> (2006). • University subarea – <i>Regent Neighborhood Plan</i> (underway). • Capitol subarea - <i>First Settlement Neighborhood Master Plan</i> (1995), <i>Bassett Neighborhood Master Plan</i> (1997), <i>East Rail Corridor Plan</i> (2004), <i>Tenney–Lapham Neighborhood Plan</i> (draft, September 2006), and <i>Tenney-Lapham Old Market Place Neighborhood Plan</i> (1995). • East Isthmus subarea - <i>East Rail Corridor Plan</i>, <i>Tenney–Lapham Neighborhood Plan</i>, <i>Tenney-Lapham Old Market Place Neighborhood Plan</i>, <i>Emerson East-Eken Park Neighborhoods</i> (1998), <i>Schenk-Atwood-Starkweather-Worthington Park Neighborhood Plan</i> (2000), and <i>Schenk-Atwood Neighborhood Business District Master Plan</i> (2000). • East Towne subarea - <i>Carpenter-Hawthorne-Ridgeway-Sycamore-Truax Neighborhood Plan</i> (2001), <i>Ridgewood Neighborhood East Central Development Plan</i> (2002), <i>Nelson Neighborhood Master Plan</i> (2001). <p>Neighborhood plans adopted or in progress are shown in Maps 2-8 and 2-9 of the City’s comprehensive plan. Many of the recommendations of both the comprehensive plan and neighborhood plans are supportive of increasing development in proposed station areas. For example:</p> <ul style="list-style-type: none"> • The <i>Spring Harbor Neighborhood Plan</i> recommends redevelopment of the employment and the commercial area on both sides of Whitney Way north of the railroad into a high density transit-oriented employment district. • Madison’s comprehensive plan as well as the neighborhood plans call for the

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	<p>preservation of the historic, older neighborhoods in the Capitol area while promoting compatible, high density and high quality new development in the central downtown area and along major corridors. In the downtown area, the highest densities are proposed in the core downtown area near the State Capitol where residential densities are expected to exceed 60 dwelling units/net acre.</p> <ul style="list-style-type: none"> • In the City’s comprehensive plan as well as the neighborhood plans, specialized employment uses including office and research are proposed for the redeveloping industrial corridor south of East Washington Avenue in the Paterson Street station area. Higher density mixed uses are proposed to replace the aging commercial/industrial development along the East Washington Avenue frontage. The <i>East Rail Corridor Plan</i> makes specific recommendations for future land uses, including development and design standards for this area, and notes the potential for transit-oriented development as a significant asset of the area. • Community scale mixed-use development characterized by a minimum of two-story structures and residential densities not exceeding 60 dwelling units/acre is proposed for the Schenk Atwood business district, the Union Corners redevelopment and parts of East Washington. The older, established neighborhoods are expected to remain as low density residential areas with average densities of less than 15 dwelling units/acre. • A mixed-use environment is envisioned for the East Towne Mall and its surrounding parcels – as the vacant out-lots are developed and existing structures are remodeled over the years, efforts will be made to incorporate more residential and higher density development in a walkable environment. <p>The City of Middleton recently completed and adopted a new <i>Comprehensive Plan</i> (November 2006). The land use element of the plan provides general objectives that should be considered during future development/redevelopment efforts with the station areas. These objectives include:</p> <ul style="list-style-type: none"> • Discourage the development of low density development within a quarter mile of rail stations and bus-stops; • Promote the development of well-designed, compact, mixed-use neighborhoods which provide a range of services within walking distance, thereby lessening the need for automobile trips; • Locate housing for seniors and low-moderate income residents in areas with transit service to provide access to shopping, employment and other destinations without needing a personal automobile; and • Encourage infill and redevelopment of existing commercial areas where appropriate. <p>Middleton’s <i>Highway 12 Corridor Redevelopment Master Plan</i>, completed in 2002, sets forth a series of integrated land use, transportation and urban design recommendations that are responsive to the opportunities presented by both the new U.S. Highway 12 bypass to be constructed around the city (completed in 2005), as well as the opportunities along the old Highway 12 right-of-way (Parmenter Street extension). Parmenter Street between University Avenue and old Highway 12, which provides access to the downtown, is designated as a mixed-use corridor to be targeted for selective infill and rehabilitation based on traditional (urban village) precedents, at a pedestrian scale. The City undertook the reconstruction of the Parmenter Street extension (old Highway 12) in 2006 as an urban boulevard and in July 2007 issued an RFP for a neighborhood plan for the corridor. The scope of the study extends south to University Avenue (two blocks north of the proposed Downtown Middleton Station).</p> <p>The Village of Shorewood Hills released a draft <i>Comprehensive Plan</i> in 2006. The</p>

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	<p>plan applies to portions of the Hill Farms/Whitney Way, Midvale Blvd., Shorewood Blvd., and VA/UW Hospital station areas. While the Village is landlocked and largely built-out, the draft plan notes that two sites - one in the Doctors Park area at the east edge of the Village and the other near Garden Homes at the west edge of the Village – present rare opportunities for mixed-use, pedestrian-scale, Transit Oriented Developments. The plan shows “preferred scenarios” for each site that include a mix of uses and increased housing densities (25 to 45 units per acre).</p> <p>The University of Wisconsin’s 2005 <i>Campus Master Plan</i> is an ambitious program for adding a significant amount of new building space for a variety of uses over the next twenty years. Since the University is surrounded by Lake Mendota and built-out neighborhoods, all the expansion is proposed within the existing campus boundaries. The University’s plan is to “recreate itself in place” by renovating and replacing outdated existing buildings with modern, higher density structures and through infill development on under-utilized areas like surface parking lots and single-story structures. The University strongly supports future commuter rail and the proposed stations within/near the campus. Its transportation plan recognizes the importance of providing rapid commuter rail transit within the Madison region to reduce travel times and make transit an attractive option for commuters. Key elements of the plan include:</p> <ul style="list-style-type: none"> • Addition of seven million gross square feet to the current 18 million square feet over the next 20 years; • Redevelopment of the student union and parking structures; • Redevelopment in the east campus area; and • 33 major projects in construction or planning totaling more than \$1 billion. <p>The University is proposing significant redevelopment in the Union South station area including the replacement of the current Union building with a new Union facility, the Wisconsin Institute of Discovery for interdisciplinary biological research, and new academic buildings. Several new University buildings are also proposed south of Johnson and west of North Park Street in the area in between the Union South and the Kohl Center Stations.</p> <p>The 2007 Dane County comprehensive plan also supports coordination of transportation with land use. Selected transportation goals include: coordinating land use and transportation plans and decisions to ensure that transportation facilities are compatible with planned development, recognizing and promoting the economic benefit of transit-oriented development, and encouraging land use and location of development to support and serve increased transit use. Selected land use goals include: promoting the redevelopment of lands with existing infrastructure and public services, and encouraging land uses, densities and regulations that promote efficient development patterns.</p>
<p>Plans and policies to enhance transit-friendly character of corridor and station area development</p>	<p>The <i>Transit Supportive Land Use Report</i> (February 2007) makes recommendations appropriate to each station area regarding actions to improve the transit-supportive character of station area development.</p> <p>Madison’s 2006 <i>Comprehensive Plan</i> recommends establishing detailed design guidelines to ensure that new development and redevelopment within the City enhances its physical character and improves its pedestrian friendly and transit supportive character. For example, Objective 7, Policy 2 of the land use component states, “Adopt and implement land development regulations (i.e. zoning, land division, official map, urban design standards) that facilitate the creation of compact, mixed - use neighborhoods and districts.” The comprehensive plan as well as neighborhood plans contain a variety of specific recommendations to enhance the environment in proposed station areas. For example, the <i>East Rail Corridor Plan</i></p>

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	<p>specifies that “primary pedestrian streets...should be made as pedestrian-friendly as possible through measures such as widening the sidewalks and narrowing vehicle travel lanes, planting canopy street trees, and providing pedestrian-scale lighting, street furniture, appropriate-scale street art and other public amenities.” The plan encourages buildings with high floor area ratios (FARs) and lot coverages, multiple stories, and structured parking. The <i>East Washington Avenue BUILD Capitol Gateway Corridor Plan</i> (2007) provides a framework for addressing the significant land use and design issues for the area centered on East Washington Avenue from East Mifflin to East Main Streets between Blair and First Streets. The plan includes land use and urban design recommendations directed at promoting mixed-use, pedestrian-friendly development, including height, bulk, and design recommendations.</p> <p>The City of Madison adopted its <i>Pedestrian Transportation Plan</i> in 1997 as an element of the City’s existing master plan. The plan makes recommendations that will enhance the pedestrian environment and increase opportunities to choose walking as a viable mode of transportation. Among the high-priority recommendations of the plan are:</p> <ul style="list-style-type: none"> • Develop and adopt new comprehensive guidelines, ordinances and other measures that will foster pedestrian oriented planning, land use, zoning and development; and • Develop and adopt new site design guidelines, ordinances and other measures that will foster pedestrian oriented site design. <p>Madison has moved forward with these recommendations in a number of ways. The City’s Urban Design Commission Ordinance (Municipal Code Section 33.02) provides for an Urban Design Commission that reviews development proposals within designated Design Districts to ensure a high quality public realm. The ordinance includes general guidelines regarding public rights-of-way, off-street parking areas, signage, building facades, lighting, landscaping and utility service. University Avenue through the entire length of the Hill Farms subarea is included in Design District #6, while a part of the Capitol subarea along East Washington Avenue is included in Madison’s Design District #4. Design District #7, designated in 2006, includes Park Street south of Regent Street in the Kohl Center station area. The Downtown is also a designated design district, and the City has produced a booklet titled <i>Urban Design Guidelines for Downtown Madison</i> that includes a series of design review requirements and guidelines.</p> <p>The City of Madison also recently adopted an ordinance for large-format retail developments that seeks to ensure that such developments promote the efficient use of land and preserve and enhance the urban fabric through a more urban site and building design. The ordinance prohibits retail establishments greater than 100,000 square feet unless they are multi-story, mixed-use, and/or with structured parking; includes design, maximum setback, and entrance requirements for ground-floor facades abutting public streets and pedestrian rights-of-way; and includes requirements for sidewalks and internal pedestrian walkways, including connections to transit stops.</p> <p>The City of Middleton has also undertaken initiatives to improve pedestrian-friendliness and promote mixed-use development. Middleton’s 1997 <i>Downtown Redevelopment Plan</i> focused on the western end of the City’s central business district. The plan contained several important goals, including removal of blight, expansion of the tax and employment base, and creation of mixed-use, pedestrian-oriented development. Significant success have been achieved since that time in improving the character of the downtown (see “Downtown Middleton Photos” on the supporting documentation CD). Middleton’s comprehensive plan and the <i>Highway 12 Corridor Redevelopment Master Plan</i> call for continuing to create mixed-use, pedestrian scale development in the downtown as well as increasing the mix of uses and pedestrian</p>

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	<p>friendliness of developments in the Highway 12 corridor, as described above. In July 2007, the City issued a request for proposals (RFP) to develop a neighborhood plan for the Parmenter Street Corridor to address the most appropriate mix of land uses; density of development; transportation options and issues; and development and design standards. The City expects the neighborhood plan to be completed by October 1, 2007, so that recommendations may be considered in the budget process for implementation in 2008. The RFP explicitly emphasizes pedestrian improvements and development design improvements to meet the objectives of the City’s comprehensive plan.</p> <p>Middleton is also studying the possibilities for a Streetscape Enhancement Program to better promote the City. A draft 2005 report reviews strategies and outlines recommendations for making the downtown more pedestrian-friendly. The report addresses crosswalks, benches, other amenities, street trees, and planters. To date, the City has placed banners in the downtown, developed new branding and a logo, and is working on a wayfinding signage project.</p> <p>Shorewood Hills’ draft <i>Comprehensive Plan</i> recommends reducing setbacks in multi-family districts from 55 to 25 feet. The plan encourages developments along University Avenue to have some physical orientation towards the railroad right-of-way and to address pedestrian and bike movement.</p> <p>The UW <i>Campus Master Plan</i> identifies “Buildings and Design Guidelines” as one of six goals that help set the direction for the plan. The plan recommends developing comprehensive design guidelines as a part of the detailed campus planning process, to provide architectural coherence throughout the campus. It also suggests defining “neighborhoods of design” to ensure that new campus buildings fit into their neighborhood context which can vary across the campus. Buildings along the south side of Linden Drive, from Charter Street to Henry Mall, will be redeveloped to better meet program needs and create a more pedestrian-friendly environment along Linden Drive. The East Campus Mall will be a lively new urban pedestrian landscape connecting Regent Street to the south with Lake Mendota to the north.</p> <p>The 2007 Dane County comprehensive plan includes goals, objectives, and policies to improve pedestrian-friendly design, including: “Build community identity by revitalizing main streets and enforcing design standards;” and “Encourage neighborhood designs that support a range of transportation choices.” The plan recommends developing an integrated set of model community and neighborhood design principles and distributing these to town, village and city government, builders, realtors and developers (p. 102).</p>
<p>Plans to improve pedestrian facilities, including facilities for persons with disabilities</p>	<p>Madison general ordinances require that sidewalks be installed within all public right of ways and public walkway easements unless otherwise determined by the city, and that subdividers shall install public walkway or sidewalk within the right of way of existing streets on the perimeter of the subdivision [16.23(a)(d)(6)].</p> <p>The transportation component of Madison’s 2006 <i>Comprehensive Plan</i> includes a number of recommendations directed at improving pedestrian facilities. For example, Objective 2, Policy 4 states, “In new neighborhoods, plan and construct a pattern of streets, sidewalks, bicycle facilities and public transit facilities that maximizes the connectivity of land uses within the neighborhood and connectivity to areas outside the neighborhood.”</p> <p>The City’s neighborhood plans contain several recommendations for enhancing the pedestrian environment, including streetscape improvements throughout the station areas. For example, neighborhood plans in the East Isthmus area contain several recommendations for improving pedestrian facilities and safety within the station areas, including: overall streetscape improvements on major corridors including wide sidewalks, narrow traffic lanes, street trees, pedestrian scale lighting, street furniture</p>

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	<p>and public art; crosswalk enhancements near uses generating high levels of pedestrian activity such as schools; pedestrian underpasses at busy intersections on Washington Avenue and Johnson Street; and off-street trails along the railroad and the Yahara River. The <i>Spring Harbor Neighborhood Plan</i> contains recommendations for providing continuous sidewalks and bike path along University Avenue, crosswalk enhancements and intersection improvements to enhance pedestrian safety</p> <p>The City of Madison’s 1997 <i>Pedestrian Transportation Plan</i> includes criteria and design guidelines for retrofitting pedestrian facilities to existing neighborhoods and streets, as well as incorporating facilities in new development. Among the high-priority actions recommended in the plan are:</p> <ul style="list-style-type: none"> • Encourage and require developers to include pedestrian connectors in their plats to maintain pedestrian access and mobility on a pedestrian scale throughout the development; • Continue efforts to retrofit intersections with curb ramps where they currently do not exist, and continue to require developers to install curb ramps at all street corners in new developments; • Continue to work with the Disability Rights Coordinator and the visually impaired community to improve crosswalk and intersection designs including consideration of audible pedestrian signals to facilitate visually impaired pedestrians’ ability to safely and conveniently cross streets; and • Include pedestrian facilities in transportation improvement program projects. <p>The City is using the underlying themes of the plan to guide its ongoing programs, including retrofitting ramps to sidewalks, maintaining sidewalk accessibility during construction, and enhancing and creating new pedestrian crosswalks especially along arterial streets. The City is also incorporating a strong emphasis on pedestrian design and accessibility features in its review of new development proposals.</p> <p>Middleton’s comprehensive plan recommends completing streetscape enhancements including installation of gateway features at the entryways to the City, landscaping, street furniture and bike racks, and implementing a new wayfinding and signage system along its major business corridors and community destinations. In addition, the City requires all new public streets within its jurisdiction to include sidewalks. Where sidewalks are not present on existing streets, the City considers including them as a part of a reconstruction project.</p> <p>The UW campus master plan seeks to further enhance the pedestrian-friendly character of the campus by implementing streetscape improvements on several roadways, traffic calming through landscaping, crosswalk enhancements, signalization of busy intersections, and pedestrian bridges across high traffic streets.</p> <p>Transportation and land use goals in the 2007 Dane County comprehensive plan support an improved environment for walking and bicycling. Some of the relevant goals of the plan include: provide an accessible, integrated and well-maintained multi-modal transportation network; and provide for safe, convenient and efficient bicycle and pedestrian travel throughout the county. The plan identifies a number of policies and programs for encouraging bicycling and walking, such as:</p> <ul style="list-style-type: none"> • Encouraging the inclusion of bikeway and pedestrian improvements in all development proposals; • Encouraging municipalities to adopt design guidelines that encourage commercial buildings and community facilities to be built up to the sidewalk and locate parking lots to the back and side; and • Providing for pedestrian connections to park and ride lots, bus transfer points, and

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	<p>other intermodal transfer facilities; and inventorying transit stops for compliance with the Americans with Disabilities Act (ADA) and coordinate with municipal street departments in scheduling improvements to bring them into compliance with ADA.</p>
<p>Parking policies</p>	<p>Madison’s 2006 <i>Comprehensive Plan</i> recommends a variety of strategies for reducing the amount of land consumed by surface parking lots in TOD areas. These strategies include shared parking, parking structures and underground parking. The neighborhood plans generally support the city-wide parking recommendations in the comprehensive plan. For example, plans for neighborhoods adjacent to downtown recommend remote parking or “park and walk” lots at the edge of downtown, locating parking lots at the side and rear of buildings, providing public parking structures to reduce the need for individual businesses to provide parking, and lowering minimum parking requirements in areas that are walkable and have good transit connections. The City has recently implemented pricing strategies at city-owned facilities downtown to encourage remote parking.</p> <p>Middleton’s comprehensive plan encourages the use of structured or underground parking in commercial areas and neighborhood centers to reduce the use of large surface parking lots.</p> <p>The Village of Shorewood Hills’ draft comprehensive plan recommends reducing off-street parking requirements for redevelopment projects located within the TOD areas, such as Doctor’s Park.</p> <p>The University of Wisconsin’s 2005 campus master plan does not include any new parking lots, and in fact, calls for the expansion of campus through the redevelopment of existing surface lots into campus buildings and parking structures. Even with the addition of several million new square feet of development in the future, the University is committed to maintaining its parking supply at the current level of 13,000 spaces.</p>
<p>2. TRANSIT SUPPORTIVE PLANS AND POLICIES (continued) c. Supportive Zoning Regulations Near Transit Stations</p>	
<p>Zoning ordinances that support increased development density in transit station areas</p>	<p>Existing zoning by station area is described in detail in the <i>Transit Supportive Land Use Report</i>. Zoning districts are summarized the respective cities’ zoning codes, provided with the supporting documentation.</p> <p>The extent to which existing zoning supports transit-supportive development varies throughout the corridor. Most station areas have zoning in at least part of the station area that allows multi-family residential development (Madison categories R4 through R6) at varying densities. Commercial districts represent the range of commercial development – from neighborhood scale centers to regional scale big-boxes and shopping mall. Madison category C4 (Central Commercial), the district surrounding the State Capitol building and State Street, is suitable for mixed-use development, while C2 (General Commercial) districts in other station areas allow a limited amount of residential/commercial mixed use development. Maximum heights may range up to 10 stories in C4 districts. Maximum FARs range up to 6.0 in some designated Downtown Design Zones and are 3.0 in C2 districts. Some areas slated for redevelopment in the East Isthmus area are currently zoned for manufacturing use. Some areas in both Madison and Middleton are zoned for planned unit development, which allows flexibility in the types and mix of uses and can support TOD.</p> <p>The City of Madison’s 2006 comprehensive plan recognizes the need to update the current zoning ordinance to implement plan recommendations. Suggested changes include creation of a new mixed-use zoning district, a Traditional Neighborhood</p>

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	<p>Development District, and zoning standards for TOD. The City has already demonstrated its willingness to rezone areas to support redevelopment and TOD-style development, for example, with the rezoning of the Union Corners site area from manufacturing and commercial (C2) to planned unit development (PUD) to permit a multi-story, mixed-use redevelopment project. The City issued an RFP in August 2007 for consultants to develop a new zoning code, which will include minimum height and/or FAR requirements in some areas such as TOD zones. The update is scheduled to start before the end of 2007 and expected to take at least two years.</p> <p>The City of Middleton’s 2006 comprehensive plan includes as a policy that “The City’s zoning ordinance should be revised as necessary to promote concepts from the Comprehensive Plan, such as mixed-use development, infill development, traditional neighborhood development, and transit-oriented development.” (p. 10-2) The plan identifies an implementation timeframe of 2006-09 for reviewing zoning and subdivision ordinances and updating them to better reflect the Smart Growth concepts included in the plan. The City has indicated that it will begin undertaking this work by the end of 2007. They are already using the PUD process to allow mixed-use, walkable developments on a smaller scale.</p> <p>The Village of Shorewood Hills’ draft comprehensive plan recommends creating new mixed-use zoning classifications for the Doctors Park and Garden Homes areas known as Transit-District - PUD (TD-P) that would require densities of 25 to 45 units per acre.</p> <p>The University of Wisconsin campus occupies a large part of three station areas. For the most part, the campus area is zoned R5, General Residence District, which allows University buildings as a conditional use. University uses are exempt from several requirements of the zone including bulk and height, making it possible for the University to develop at a high level of density.</p>
<p>Zoning ordinances that enhance transit-oriented character of station area development and pedestrian access</p>	<p>Downtown Design Zones in the central area of the City of Madison ensure that developments with residential components within these zones are compatible with selected site and building design attributes that help define the essential character and identity of the individual zones [28.07(6)]. These zones have minimum height requirements of two stories, maximum heights of between four and ten stories, front and side setback requirements of zero to 15 feet, and FARs up to 6.0 depending upon the district. Projects are required to go through a design review process.</p> <p>Design Districts #4 (East Washington Street), #6 (University Avenue), and #7 (Park Street) also apply to some station areas and include general guidelines regarding public rights-of-way, off-street parking areas, signage, building facades, lighting, landscaping and utility service.</p> <p>Madison’s comprehensive plan recognizes the need to update the current zoning ordinance to implement recommendations laid out in both the comprehensive plan and many neighborhood plans. The zoning code revision in progress will consider the use of mixed-use zoning categories, form-based codes, and/or transit overlay districts to systematically require or encourage the type of mixed-use development already allowed through the PUD process and to specify appropriate design requirements (e.g., maximum setbacks, building orientation). In addition, the City works closely with developers in the review of proposals to ensure that developments are pedestrian-friendly and meet other city objectives.</p> <p>Shorewood Hills’ proposed Transit-District - PUD (TD-P) zoning designation the Doctors Park and Garden Homes areas would require a mix of uses and would include design standards.</p>
<p>Zoning allowances for reduced parking and</p>	<p>In Madison, the number of required off-street parking spaces ranges from 1.0 to 2.0 per residential unit depending upon the zoning district and number of bedrooms. For</p>

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traffic mitigation	<p>office, retail, and many other commercial uses, one space per 300 square feet of gross floor area is required. No accessory off-street parking is required in the Madison C4 (Central Commercial) district, and any off-street parking which is provided is controlled as to the location, type and size of such facility so as to reduce congestion on streets within or leading to this district. The City’s Zoning Administrator or the Director of the Department of Planning and Community and Economic Development may grant a reduction in required off-street parking after considering various factors including proximity to transit routes and/or bicycle paths and provision of bicycle racks. Reductions in parking requirements will be considered as part of the current work to revise the City’s zoning code. The City notes that there has been a trend from developers to request less parking especially in central areas well-served by transit, with some developments showing a demand of less than one space per unit.</p> <p>In Middleton, off-street parking requirements are 1.0 spaces per unit for an efficiency, 1.5 for a one-bedroom unit, and 2.0 for units with two or more bedrooms. Office and retail uses are required to provide one space per 300 square feet of gross floor area. Adjustments may be authorized by the Plan Commission where the applicant can document shared facilities arrangements with neighboring uses or where there are documented shared-ride or carpooling programs.</p> <p>In Shorewood Hills, off-street parking requirements are 1.25 spaces per dwelling unit for efficiency and one-bedroom units, and 2.0 spaces per unit for units with two or more bedrooms. Office and retail uses are required to provide one space per 300 square feet of gross floor area.</p>
<p>2. TRANSIT SUPPORTIVE PLANS AND POLICIES (continued)</p> <p>d. Tools to Implement Land Use Policies</p>	
Outreach to government agencies and the community in support of land use planning	<p>Preparation of the <i>Transit Supportive Land Use Report</i> included a series of meetings and workshops held over two days with local planners and developers to get their feedback regarding existing conditions and future development potential within the station areas. These included meetings with city, county and agency land use and planning staff and with local developers who have knowledge and/or development interests in the study area. The real estate analysis was based on representatives from the municipalities, Dane County, the State government, and the University as well as property owners, developers and realtors. The recommendations of the report were presented to the Transport 2020 project’s Implementation Task Force.</p>
Regulatory and financial incentives to promote transit-supportive development	<p>A number of the station areas in the City of Madison overlap established tax increment districts (TID) which can be used to help fund redevelopment. TIDs in station areas include #26, Park-Regent and #33, Monroe-Harrison (Union South and Kohl Center station areas); #28, Bassett Neighborhood (Monona Terrace station area); #25, Wilson Street Corridor (Monona Terrace and Hancock station areas); and #31, Atwood & Amoth Ct. (Schenk-Atwood station area). City policy outlines the types of projects that are eligible for tax increment finance (TIF) support and a process for applications. (The policy and a map of TIDs are included with the supporting documentation.) The TIF mechanism has been applied by the city to support a number of infill redevelopment projects. For example, the City granted \$3 million in TIF support for the mixed-use University Square project (under construction in the Kohl Center station area) to support costs associated with underground and ramp parking. A \$4.9 million TIF loan is supporting infrastructure improvements associated with the Union Corners project (Union Corners station area).</p> <p>The City of Madison has a façade improvement program that provides grants in an amount up to half the total project cost of improvements, to a maximum of \$10,000 per street facing facade. A number of the streets targeted by the program transect station areas, including University Ave. adjacent to the UW/VA Hospitals Station, Park Street</p>

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	<p>and Regent Street near the Kohl Center Station, a number of streets in the vicinity of the Capitol, Williamson Street near the Paterson Station, and Winnebago Street and Atwood Ave. near the Schenk-Atwood Station (see map included with supporting documentation).</p> <p>The Dane County Better Urban Infill Development Program (BUILD) assists local governments to prepare plans to redevelop and promote infill development within parts of their communities that may become obsolete, rundown, or environmentally contaminated. Planning consultants assist communities in preparing infill development design and implementation plans. In 2003, the City of Madison received a matching grant from the BUILD program for the first phase of the East Washington Capitol Gateway Corridor planning initiative. This project developed detailed land use recommendations and urban design guidelines for both the north and south frontages of East Washington Avenue between Blair Street and First Street. The project resulted in the <i>East Washington Avenue BUILD Capitol Gateway Corridor Plan (2007)</i>. Middleton also has made use of this grant program, although not in the immediate station areas.</p>
<p>Efforts to engage the development community in station area planning and transit-supportive development</p>	<p>Preparation of the <i>Transit Supportive Land Use Report</i> included the involvement of developers and property owners, as described above.</p> <p>The City of Madison maintains a high standard for projects in the City and works closely with developers and neighborhoods in reviewing and refining the design of proposed developments to ensure that they meet planning goals and objectives. In 2005 the Department of Planning and Development published a guide called <i>Participating in the Development Process: A Best Practices Guide for Developers, Neighborhoods & Policymakers</i>. The guide is intended to provide information about the review process that will help developers and neighborhood residents to foster a higher level of communication. The guide outlines the steps of the process and the various participant roles. The guide highlights, as an example, the extensive community review process that was applied to the redevelopment of the 800 block of East Washington Avenue (Paterson station area). Neighbors were given the opportunity to indicate their vision for the site, and supported the city’s goals for the project of combating urban sprawl and making East Washington Ave. a more visually attractive, vibrant corridor. In another example, for the Union Corners development (Union Corners station area), through a studio process the developer responded to the neighborhood’s interest in making the project feel more urban, specifically modifying the design to bring the buildings closer to the street and incorporate less surface parking into the site.</p>
<p>3. PERFORMANCE AND IMPACTS OF LAND USE POLICIES</p> <p>a. Performance of Land Use Policies</p>	
<p>Demonstrated cases of developments affected by transit-oriented policies</p>	<p>In the City of Madison, recent redevelopment efforts in the East Isthmus area (including the Union Corners redevelopment), the continuing public and private investment resulting in higher density development in the Capitol area, and the intensification of the University Avenue corridor through projects such as the Hilldale Mall expansion, exhibit the City’s commitment to accommodating new population and employment growth in its existing neighborhoods. Due to City and neighborhood encouragement as well as market demand, new developments in the City are becoming increasingly dense and pedestrian-friendly. The City of Madison notes that there has been strong support for the concepts of mixed-use, higher-density, and more urban-scale development within the City and neighborhood planning processes, especially in central city neighborhoods. This support has been demonstrated by the public as well as the Planning Commission and City Council. Numerous examples are illustrated in the proposed land use section of the City’s 2006 comprehensive plan (see Vol. II, p. 2-22, 2-26, 2-36, 2-58, 2-84, 2-111, 2-112, 2-113, 2-114, 2-116).</p>

Information Requested	Documentation Supporting Land Use Criterion
	<p>While development opportunities in the Middleton station areas are limited, higher-density, mixed-use development is taking place outside of the station areas. For example, at Highway 12 and Airport Road, the Harvard Square mixed-use (office/retail) development will ultimately have 350,000 square feet of space in multiple buildings with two to four stories each. Tribeca Village is a proposed “new urbanist” mixed-use development for the 24-acre Murphy property, located between the new Hwy 12 Bypass and Parmenter Street (Old Hwy 12), north of Century Avenue (about one mile north of the proposed Downtown Middleton Station). The majority of the space will be devoted to six office buildings comprising a total of 440,000 square feet. Another 326,000 square feet will be dedicated to retail uses, in addition to 169 apartments and condominiums, including workforce housing.</p> <p>The Village of Shorewood Hills notes in its comprehensive plan update that, “In contrast to earlier commercial development in the Village, many of the new commercial and office structures [along University Avenue] take the form of multi-story buildings... Continued development pressure (and increased development densities), along this corridor is a trend that seems likely to continue for some time. As a consequence of these increased densities, commuter rail transit along the corridor may be more viable and more necessary in the future.”</p>
<p>Station area development proposals and status</p>	<p>Significant redevelopment activity has continued to occur in downtown Madison as well as the University area. A major redevelopment project is also underway in the Union Corners area, on Madison’s east side. Growth continues to occur in Middleton, and redevelopment and intensification of existing uses is occurring in the Hill Farms area. Recently completed, underway, and proposed projects are listed by corridor subarea below.</p> <p>Middleton</p> <ul style="list-style-type: none"> • U.S. 12/14 - A Courtyard by Marriott hotel is planned for a site in the Discovery Springs office park along Deming Way. A large retail user is also being considered for a site in this park. A mix of office and retail uses is proposed for another parcel still undeveloped at Greenway Center, near the existing parking deck on Aspen Commons. <p>Madison – University Avenue and University Subareas</p> <ul style="list-style-type: none"> • Hill Farms/Whitney Way – The State has started to plan for the redevelopment of the 22-acre Department of Transportation headquarters building at 4802 Sheboygan Avenue. Construction could start in 2008 and take 5-10 years to reach full build-out. • Midvale Blvd. – The 37-acre, 300,000 square foot Hilldale Mall at Midvale Road and University Avenue is in the process of being redeveloped by Joseph Freed and Co. Phase 1 includes a parking deck, new and reconfigured retail space, townhouses and stacked flats. A relocated Whole Foods will be built in addition to a new Sundance Movie Theater. Ultimately this project will include 650,000 square feet of retail, restaurant and entertainment space, as well as 700 condominium and townhouse units. Full build-out is expected to take 10 years. • UW/VA Hospitals – In addition to the University of Wisconsin’s 33 major projects underway, the University Children’s Hospital is being expanded. A dormitory at Park and Regent is under construction. • Union South – Some private projects are underway, including a mixed-use project with 51 condominium units targeted towards empty nesters and a Trader Joe’s grocery store being constructed between Monroe and Jefferson Streets, just south of Camp Randall Stadium. A proposed 50-unit condominium building at the

Information Requested	Documentation Supporting Land Use Criterion
	<p>southeast corner of Monroe and Regent is planned but on hold.</p> <ul style="list-style-type: none"> • Park St./Kohl Center –University Square is under construction in the 700 block of University Ave. The \$150 million project is an 11-story, 1-million-square-foot project with 350 apartments, 250,000 square feet of university, student and health service offices, 140,000 square feet of retail space, and 420 ramp and underground parking stalls. The project is replacing a single-story retail complex. Completion is scheduled for late 2008. <p>Madison – Capitol Subarea (Monona Terrace, Hancock St., and Paterson Stations)</p> <ul style="list-style-type: none"> • An entire block is currently being redeveloped as Capitol West with condominiums, office and retail use. The first phase of that project – under construction as of July 2007 - has 33 condominiums and the next phase will have a total of 173 residences with limited retail and office uses. Ultimately the project will incorporate approximately 375 to 400 townhomes, condominiums, lofts and penthouses, along with neighborhood services, shopping, and parking. The property encompasses the block bordered by West Washington Avenue, and South Henry, West Main and South Broom Streets (1/3 mile from the Monona Terrace Station). • Metropolitan Place Phase 1 (333 West Mifflin Street, less than ½ mile from the Monona Terrace Station) is already completed with 200 units and a second phase is planned with 100-120 condominiums. • A new office building, Capitol Square, at Martin Luther King and Main Street (three blocks from the Monona Terrace Station) was completed in 2006. • The Meriter Hospital site at Broom and Washington (1/3 mile from the Monona Terrace Station) has been acquired and will ultimately be redeveloped. • The City has approved 48 apartments at 205 N. Pinckney (less than ½ mile from the Hancock Station). • A plan was approved in 2004 for 310 apartments at the 800 block of East Washington Avenue (1/4 mile from the Paterson Station). The project is on hold due to possible soil contamination. • The City of Madison has received some proposals for development in the First Settlement area near the Elks Club, though this will be a complicated redevelopment. <p>Madison – East Isthmus Subarea</p> <ul style="list-style-type: none"> • Union Corners – The Union Corners redevelopment, which is underway, will add 450 new residential units and up to 110,000 square feet of new retail and office space at the 15-acre site of a former battery factory. Buildings will be up to eight stories in height. Construction is expected to take three to four years. Several smaller scale redevelopment and infill development projects have been completed or are near completion in the Schenk Atwood area.
<p>3. PERFORMANCE AND IMPACTS OF LAND USE POLICIES (continued) b. Potential Impact of Transit Project on Regional Land Use</p>	
<p>Adaptability of station area land for development</p>	<p>The <i>Transit Supportive Land Use Report</i> included a market assessment (Appendix A) to determine the projected residential, office, and retail development potential between 2005 and 2020 in station opportunity areas. The assessment was based on a review of current development trends, forecast population and employment growth in the corridor, land use plans and development opportunity sites, and interviews with local</p>

Information Requested	Documentation Supporting Land Use Criterion
	<p>officials, developers, property owners, and real estate experts. The total estimated potential through 2020 in the subareas served by the LPA includes just over 3,000 dwelling units, 2.2 million square feet of office space, and 1.1 million square feet of retail space. At average occupancies of two persons per dwelling unit and 250 square feet per employee, this translates into a potential of 6,000 new residents and 13,400 new employees in proposed station areas. These estimates do not include classroom space or special purpose buildings at the University of Wisconsin campus.</p> <p>Development opportunities by subarea are described in more detail below.</p> <p>Middleton (U.S. 12/14 and Downtown Middleton Stations)</p> <p>The Middleton subarea is mostly built-out with limited development opportunities over the next 15 years. It is estimated that by the year 2020, the corridor could attract 250 additional dwelling units and 125,000 square feet of new office and 200,000 square feet of retail space. While the downtown station area is well developed, some redevelopment and infill development (on sites like surface parking lots) could occur. In the 12/14 Park and Ride station area, there are some vacant lots in the Greenway Station development to the south and the Discovery Springs Business Park to the north. These lots could be developed with residential and office uses respectively. As development pressures increase in the area, especially with the start of a potential new rail service, the area might see significant infill development as surface parking lots are replaced with parking garages, freeing up land for development.</p> <p>University Avenue Corridor (Hill Farms/Whitney Way, Midvale Blvd., and Shorewood Blvd. Stations)</p> <p>The Hill Farms subarea has significant development potential over the next 15 years. It is estimated that by the year 2020, the Hill Farms subarea could attract 900 additional dwelling units, 600,000 square feet of new office space, and 175,000 square feet of retail space.</p> <p>The redevelopment of the 37-acre Hilldale Mall site is expected to add a total of new 700 residential units and approximately 350,000 square feet of new commercial space over the next ten years. The office buildings currently occupied by the State of Wisconsin in the Hill Farms/Whitney Way and Midvale Boulevard station areas also offer significant redevelopment opportunities. The State of Wisconsin is planning to develop the old suburban style office buildings set amidst large parking lots into higher density, transit-oriented mixed-use buildings in the near future.</p> <p>There are several additional redevelopment opportunities within the subarea. The vacant, circular, white office building located east of the State Crime Lab building could be rehabilitated for residential uses or redeveloped into a transit-oriented use. The Garden Homes multi-family development located in Shorewood Hills is obsolete and slated for redevelopment. In the Hill Farms/Whitney Way station area, the University Place commercial strip, located northeast of the proposed station, could be redeveloped.</p> <p>University Corridor (VA/UW Hospital, Union South, and Park St./Kohl Center Stations)</p> <p>The University subarea offers significant development opportunities over the next 15 years. It is estimated that by the year 2020, the University corridor could attract 600 dwelling units, 375,000 square feet of office space, and 150,000 square feet of retail space. Although these estimates include replacement housing being built or planned by the University, they do not include classroom space or special purpose buildings.</p> <p>Most of the future development in the subarea is expected to be University-related.</p>

Information Requested	Documentation Supporting Land Use Criterion
	<p>According to the market study report, in the near term, significant redevelopment opportunities exist in the Union South station area where the University is planning the construction of new student union buildings to replace the current building, new replacement dormitories, and a premier research institute, the Wisconsin Institute of Discovery. The University is also planning an expansion of the Children’s Hospital and its health science facilities located in the UW/VA Hospitals station area.</p> <p>Opportunities for off-campus, private development are limited in the near term. However, a few fairly large projects are already underway. In the UW/VA Hospitals station area, the Doctor’s Park development in Shorewood Hills is obsolete and slated for redevelopment into a high density mixed-use project including residential, retail and office uses. Another significant redevelopment opportunity in this station area exists along University Avenue between Farley and Highland Avenues and near Allen Street. These areas have the potential for higher intensity mixed-use development.</p> <p>Capitol Corridor (Monona Terrace, Hancock St., and Paterson St.)</p> <p>The Capitol subarea offers significant development and redevelopment opportunities over the next 15 years. It will continue to be among the strongest office markets in the region and will attract increasing amounts of residential development. It is estimated that by the year 2020, the Capitol subarea could attract 550 additional dwelling units, 750,000 square feet of new office space, and 150,000 square feet of retail space.</p> <p>The Capitol subarea has experienced significant new development over the last few years and as a result, it is mostly well developed with high density uses in a mixed-use environment. However, redevelopment opportunities still exist where there are underutilized sites (such as surface parking lots) and, as older buildings become obsolete. Also, high-density residential development is proposed along the Lake Monona waterfront in the Monona Terrace station area and near the Elks Club in the Paterson station area.</p> <p>The greatest redevelopment opportunities within the subarea exist in the Paterson station area. Intensification of uses along East Washington, along with redevelopment of the industrial parcels south of East Washington into higher intensity employment uses, present tremendous opportunities to enhance the transit-oriented character of the area.</p> <p>East Isthmus Corridor (Baldwin St., Schenk-Atwood, and Union Corners)</p> <p>The East Isthmus subarea offers several development and redevelopment opportunities over the next 15 years. It is estimated that by the year 2020, the corridor could attract 600 additional dwelling units, 300,000 square feet of new office space, and 200,000 square feet of retail space.</p> <p>The Union Corners redevelopment, which is underway, will add 350 new residential units and new commercial space at the site of the former battery factory. Several smaller scale redevelopment and infill development projects have been completed or are near completion in the Schenk Atwood area. Both Union Corners and Schenk Atwood areas will continue to see more development as underutilized sites (such as surface parking lots) are redeveloped for higher uses, leading to further intensification.</p> <p>East Washington Avenue, throughout the East Isthmus subarea, has the potential for more intense, transit-oriented redevelopment. The market analysis suggests a strong market for condominiums, mixed-use projects, and employment-oriented uses along East Washington, especially where older industrial parcels are redeveloped. While residential development would likely be more intense, the City’s strong desire to maintain the traditional employment base in East Isthmus could potentially result in a broader mix of uses such as office spaces and service uses.</p>

Information Requested	Documentation Supporting Land Use Criterion
	<p>The Williamson Street corridor, located south of East Washington, is also likely to see development although at a lower intensity (maximum of 3-4 stories) to maintain compatibility with the adjacent mostly single-family neighborhoods.</p> <p>The Baldwin station area has extensive development potential. Intensification of uses along East Washington, redevelopment of the industrial parcels south of East Washington, and redevelopment of obsolete/ underutilized sites along the Yahara River all present tremendous opportunities to enhance the transit-oriented character of the area.</p> <p>East Towne Corridor (Fair Oaks, Lien Rd., and Reiner Rd./West Sun Prairie)</p> <p>There are limited residential and office, but good commercial development opportunities, for the East Towne subarea over the next 15 years. By the year 2020, the corridor could attract up to 120 additional dwelling units, 75,000 square feet of new office space, and 250,000 square feet of new retail space.</p> <p>In the Fair Oaks station area, redevelopment opportunities exist in the undeveloped land along Starkweather Creek. Even though a significant portion of this area will be unavailable for development because of the presence of wetlands and the creek, the southern portion of the land along Milwaukee Street could be redeveloped for transit supportive uses. In addition, the commercial uses along Fair Oaks Avenue south of Commercial Avenue could be subject to change.</p> <p>The Lien Road station area offers several development/ redevelopment opportunities. Several out lots in the East Towne Mall area are still undeveloped. The area immediately surrounding the proposed station is also mostly vacant and could be developed into a transit-oriented use.</p> <p>The Reiner Road Station is being envisioned as a park-and-ride facility to serve commuters living on the far east side and eastern suburbs, such as Sun Prairie. The area is currently mostly undeveloped and is likely to remain so in the near future.</p>
Corridor economic environment	<p>The real estate market in the Madison region is exhibiting characteristics and trends that positively influence the potential demand for transit-oriented development. These include:</p> <ul style="list-style-type: none"> • Regional growth has been strong; Dane County issued almost 30,000 residential building permits between 2000 and 2006 while the City of Madison issued 13,800 and the City of Middleton issued almost 700. Dane County is projected to grow by 36 percent, or an average of 1.2 percent per year, between 2000 and 2030, adding 153,000 people; over one-third of this growth (57,000) is expected to occur within the City of Madison. Employment in Dane County is expected to grow by 98,000 over this time period (34 percent), with the majority (nearly 60,000) occurring within the City of Madison. • The share of multi-family housing is relatively high for the size of the region, suggesting a strong market for TOD-style development. Housing within the City of Madison is almost evenly distributed between owner- and renter-occupied housing; 62 percent of building permits issued by the city and 47 percent issued by Dane County between 2000 and 2006 were for multi-family units. The condominium market is especially strong, with the number of condominiums in Dane County increasing from about 10,000 at the time of the 2000 Census to nearly 14,000 by the end of 2004. Much of this growth has taken place in the Downtown and University submarkets. • Housing values are also relatively high for the metro area's size. For the October 2005 – October 2006 period, the median sales price for all homes ranged from a

Information Requested	Documentation Supporting Land Use Criterion
	<p>low of \$187,500 in the East submarket to a high of \$292,000 in Middleton. The median price for new homes ranged from \$232,000 in the East to \$439,000 in Middleton. The highest rents are found downtown and typically range between \$1,100 and \$1,450 for a two-bedroom apartment.</p> <ul style="list-style-type: none"> • Downtown Madison commands a significant proportion of the region’s office space (21.5 percent), including the vast majority of Class A space. The Downtown vacancy rate in 2005 was a relatively low 8.7 percent, while asking rents averaged \$23.60 per square foot for class A space. The vacancy rate in the West submarket was only slightly higher (9.2 percent) but was more significant in the East submarket (15.1 percent). The vacancy rate for the region as a whole was 10.9 percent in 2005, showing a significant downward trend compared to the rate of 15.1 percent in 2003. • In 2005, for the first time in many years, all submarkets experienced construction activity with the Downtown experiencing the largest activity with the addition of 133,350 square feet at 33 E. Main Street. The Madison office market continued to show positive absorption in 2005 with the addition of 329,000 square feet, although this is below the 5-year average of 368,000. While office demand is expected to grow at a slower pace over the next five years, continued land purchases represent a stock piling of land assets for future development. • Retail space has increased significantly in recent years, from 11 million square feet in 2000 to 14.8 million square feet in 2006. In the more densely populated areas, additional retail space will be primarily in mixed use projects or on the ground floor of residential or office developments.
4. OTHER LAND USE CONSIDERATIONS (Optional)	
Other factors not otherwise identified	

7.0 Local Financial Commitment

7.0 Local Financial Commitment

This section contains the financial plan developed for Transport 2020 project. The financial plan and 20-year financial model have been developed in accordance with FTA's June 2000 *Guidance for Transit Financial Plans*, and the reporting of the local financial commitment criterion is consistent with the May 2007 *Reporting Instructions for the Section 5309 New Starts Criteria*.

The two major elements included in this section are the Finance Template and the Transport 2020 Financial Plan. The Finance Template provides a uniform reporting of the local financial commitment for Transport 2020. The financial plan illustrates that the sufficient financial capacity will be available to construct and operate the Transport 2020 project. This will be the first service to be operated under a newly formed Regional Transportation Authority (RTA).

Key supporting documentation for the local financial commitment criterion will be provided directly to the contractor assigned by FTA to conduct a financial assessment of the Transport 2020 project. The Local Financial Checklist is provided at the end of this section.

Local Financial Commitment Checklist

GRANTEE FINANCIAL SUBMITTAL	Included (check one)		Reason Why Information Has Not Been Provided
	Yes	No	
20-year cash flow statement (in year of expenditure dollars) including capital and operating financial plans (provided both electronically and in hardcopy). The cash flow statement should clearly show revenues and expenses for the project separated from those for the remainder of the transit system.	✓		
Detailed written description/discussion of all assumptions used in the financial plan including: Federal/state/local/debt proceeds funding assumptions Average fare assumption Average weekday ridership assumptions Debt coverage requirements/assumptions Assumptions used in the calculation of operating expenses for each mode (i.e. -- vehicle miles, vehicle hours of service provided, etc.)	✓		
FTA Project Description and Financial Template	✓		
Capital cost estimate for the proposed project (in year of expenditure dollars) in the FTA standardized cost category worksheet format	✓		
Sensitivity Analysis	✓		
Supporting Documentation Including:			
Background information and description of the New Starts fixed guideway project, including project status	✓		
Historical revenue and expense data (minimum of 5 years required, more than 5 years appreciated)		✓	New agency to be formed to implement project.
Commitment letters, contracts, agreements, legislative referendums or other documents demonstrating local share commitment of non-Federal funding partners	✓		Contained in Section 12.0
Enacting legislative documents for tax referenda		✓	Enabling legislation has not yet passed.
Joint development agreements, or description and supporting documentation of other innovative financing techniques, if applicable		✓	Not applicable.
Annual Operating and Capital Budgets for the past 3 years		✓	New agency to be formed to implement project.
Audited Financial Statements and Compliance Reports for the past 3 years		✓	New agency to be formed to implement project.
Annual Reports/Comprehensive Annual Financial Reports (CAFR) for the past 3 years		✓	New agency to be formed to implement project.
Background information and description of the transit agency, including organizational structure and grantee enabling legislation	✓		See Project Management Plan, Section 10.0
TIP, STIP and Short Range Transit Plan (SRTP), if available (please provide only relevant pages of these documents)	✓		
Regional Long Range Transportation Plan (please provide only relevant pages)	✓		
Sponsoring Agency's Capital Improvement Program Document			n/a
Bus and Rail Fleet Management Plans including fleet replacement schedules			n/a
Latest bonding prospectus/credit facility documents (credit lines, commercial paper, etc.)			n/a
Local development, demographic and economic studies used in preparing the financial plan, plus documentation supporting efficiency or productivity gain assumptions			n/a
Other materials (if any), please describe:			

Transport 2020 Commuter Rail

Financial Plan

final report

prepared for

**City of Madison
Dane County
Wisconsin Department of Transportation**

prepared by

**HNTB Corporation
Cambridge Systematics, Inc.**

final report

Transport 2020 Commuter Rail

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City of Madison
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prepared by

Cambridge Systematics, Inc.
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date

May 23, 2008

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1.0 Introduction

This Financial Plan has been developed in accordance with the provisions of FTA Circular 5200.1A, Section 5309 of Title 49, U.S.C., and the FTA *Guidance for Transit Financial Plans* dated June 2000. The plan describes the revenues and expenditures associated with the Transport 2020 Commuter Rail Project over time; sources of Federal, state, and local funding; and the ability of those funding sources to construct and implement the project. It includes a Capital Plan and an Operating Plan.

1.1 DESCRIPTION OF PROJECT SPONSOR

The project sponsor for the Transport 2020 project is an Intergovernmental Partnership (IGP) established to manage project planning and development activities. The IGP is comprised of the City of Madison, Dane County, and the Wisconsin Department of Transportation (WisDOT). The City has provided the Program Manager leading the Stage One planning/alternatives analysis/environmental phases of the study.

The project organization has been established to ultimately recognize the authority of a proposed Regional Transportation Authority (RTA) as a recipient of state and Federal funds. Enabling legislation must be passed at the state level in order to authorize the creation of an RTA. Once created, the RTA will function to provide funding as well as policy direction and guidance for the Transport 2020 project. The RTA will have authority over a comprehensive, countywide transportation system that will provide transportation infrastructure to the entire region.

The structure of the RTA has been agreed to in concept by the City of Madison and Dane County. The RTA will be governed by a policy board that includes representatives of the City of Madison, Dane County, local municipalities throughout Dane County, and community partners, including the University of Wisconsin at Madison and the Madison Area Metropolitan Planning Organization.

The enabling legislation is expected to allow for up to a one-half-cent sales tax, which would go before the citizens in a countywide referendum. The implementation of the sales tax will be contingent upon receiving Federal transit funds. Based on revenues from an existing county option sales tax for other purposes, it is estimated that this tax would generate \$42 million in 2007, of which a portion is anticipated to cover the local share of capital, operating and maintenance costs of the Transport 2020 project. This sales tax funding would be apportioned to Transport 2020 as well as other regional transportation initiatives. The funding breakouts could be as follows (note that the funding breakouts

below have been suggested as a starting point for detailed local discussions, which are ongoing):

- 33 percent: first phase of Transport 2020;
- 25 percent: Metro Transit buses;
- 25 percent: town, village, city and county road maintenance; and
- 17 percent: paratransit services, rail and bus enhancements, and bicycle facilities.

The City of Madison Common Council and Dane County Board of Supervisors passed resolutions in 2007 supporting the passage of the enabling legislation.¹ In addition, the Madison Area Metropolitan Planning Organization also passed a resolution of support for this legislation in 2007. It is anticipated that this legislation will be passed by the state legislature and signed by the Governor during the January 2009 biennial legislative cycle, which will meet the timeline for implementation of a new sales tax to support the RTA and the Transport 2020 project. This Financial Plan assumes implementation of the sales tax by January 1, 2012.

1.2 REGIONAL ECONOMIC CONDITIONS

The Transport 2020 project began with a broad focus of examining potential transportation improvements throughout Dane County while focusing on the Madison metropolitan area. While the project involves measures that can positively impact congestion, safety issues, and pedestrian and bicycle mobility in and around the east-west rail corridor through the Madison isthmus, the effects of the improvements will likely resonate throughout the county and surrounding areas. This section outlines the regional economic conditions of Dane County.

1.2.1 Population

As shown in Table 1.1, the Madison area has grown at a brisk pace since 2000. Projections of future population growth predict that the Central Urban Service Area, including Madison and Middleton, will gain an additional 70,000 residents by the year 2030. In combination with other urban areas in Dane County, the urban growth rate is expected to surpass that of rural areas by 14 percent.

¹ Resolutions supporting the expansion of multi-modal public transit in the Madison metropolitan area and State legislation that enables the creation of a Regional Transportation Authority were passed by the Dane County Board of Supervisors and the City of Madison Common Council in 2007.

Table 1.1 Population Forecasts by Service Area^a

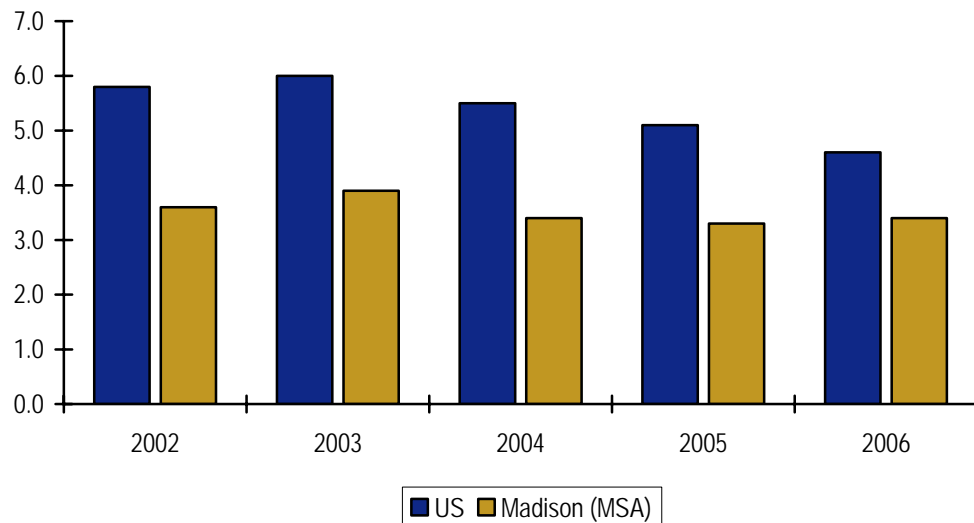
Service Area	Actual		Forecast			Change 2000 to 2030	
	2000	2006	2010	2020	2030	Number	Percent
Central (Madison-Middleton)	268,850	287,707	293,929	315,413	339,222	70,372	26.2%
Cottage Grove	4,059	5,158	5,689	7,438	9,372	5,313	130.9%
Sun Prairie	20,533	25,344	26,266	30,869	36,211	15,678	76.4%
Verona	7,306	10,100	10,560	12,965	15,685	8,379	114.7%
Wauwaukee	9,000	10,760	11,800	14,453	17,458	8,458	94.0%
<i>All Urban</i>	<i>367,615</i>	<i>402,202</i>	<i>415,938</i>	<i>458,638</i>	<i>506,993</i>	<i>139,378</i>	<i>37.9%</i>
<i>All Rural</i>	<i>58,911</i>	<i>62,311</i>	<i>64,638</i>	<i>68,896</i>	<i>72,983</i>	<i>14,072</i>	<i>23.9%</i>
Dane County	426,526	464,513	480,573	527,534	579,976	153,450	36.0%

^a Capital Area Regional Planning Commission. *2006 Regional Trends*. Available at <http://www.danecorpc.org/>.

1.2.2 Employment

Traditionally, Madison's economy has been strongly influenced both by being home to one of the largest state universities in the United States (the University of Wisconsin at Madison has more than 41,000 students) as well as the majority of state government offices. In addition to providing a large number of public sector jobs and a stable base for the local economy, these two institutions have enabled a number of affiliated professional and service industries to develop in the region. The following figures and tables characterize employment trends within Madison and the surrounding region. Figure 1.1 depicts the Madison Statistical Area's (MSA) annual average unemployment rates since 2002. Typically between three and four percent, the area's unemployment rate tends to fall below the national average, which although declining, ranged between 4.5 and seven percent for the same time period.

Figure 1.1 Annual Average Unemployment Rates
2002 to 2006^a



^a U.S. Department of Labor, Bureau of Labor Statistics. Available at <http://www.bls.gov/bls/employment.htm>.

As shown in Table 1.2, employment has grown across nearly all categories in the past several years, with the exceptions of manufacturing and public administration.

Table 1.2 Recent Employment by Industry Sector

Industry Type by NAICS Sector	Average Annual Employment						
	2000	2001	2002	2003	2004	2005	2006
Natural Resources	1,520	1,568	1,566	1,576	1,644	1,667	1,694
Construction	14,157	14,622	14,564	14,828	14,989	15,512	15,693
Manufacturing	30,725	29,080	27,226	26,809	27,070	27,044	26,977
Trade, Transportation, Utilities	51,375	52,074	50,694	51,044	51,836	52,538	52,621
Information			6,506	6,874		8,647	8,841
Financial Activities	22,337	23,156	24,496	25,217	26,789	27,745	26,578
Professional and Business Services	28,839	29,617	31,375	31,241	31,039	32,388	34,441
Educational and Health	61,401	63,460	66,330	67,258	68,439	69,932	69,774
Leisure and Hospitality	23,330	23,770	24,308	25,028	26,404	27,456	27,528
Other Services	9,361	9,814	10,040	10,110	10,691	10,951	11,242
Public Administration	24,141	24,440	24,037	23,808	23,326	22,980	22,871
Total, All Industries	274,477	278,994	281,163	283,797	290,229	296,887	298,291

Table 1.3 shows projections through 2030. Expectations are that employment will grow approximately 50 percent between 2000 and 2030 within the City of Madison, and up to 60 percent within Dane County. Consistent growth levels are forecast during each 10-year interval.

**Table 1.3 Employment Forecast for Madison and Dane County
2000 to 2030^a**

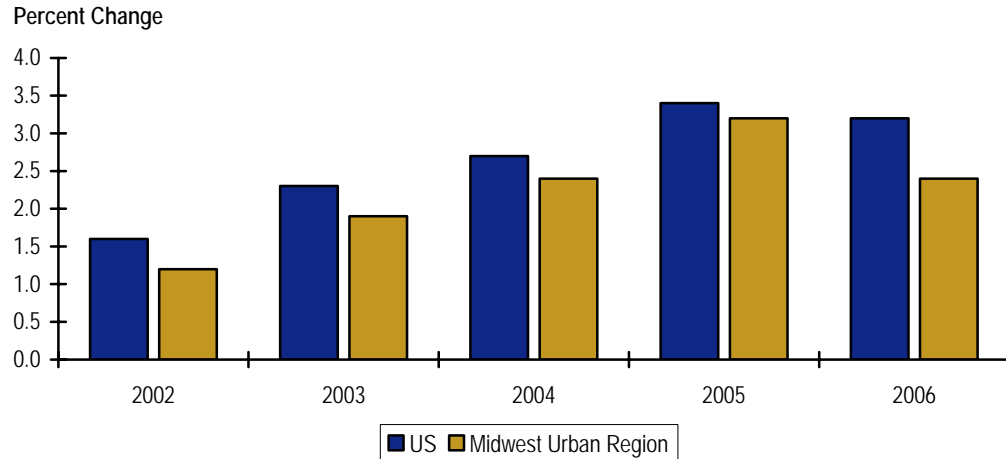
	2000	2010	2020	2030	2000 to 2030	
					Number	Percent
<i>Low-Growth Forecast</i>						
City of Madison	178,951	205,000	234,000	264,000	85,049	48%
Dane County	281,432	333,000	387,000	441,000	159,568	57%
<i>High-Growth Forecast</i>						
City of Madison	178,951	209,000	240,000	270,000	91,049	51%
Dane County	281,432	338,000	394,000	450,000	168,568	60%

^a City of Madison Comprehensive Plan, Valerie S. Kretchmer Associates, Inc. (Transport 2020 Land Use Report, November 2006).

1.2.3 Inflation

Figure 1.2 shows annual average inflation rate change for the United States as compared to change in Midwest Urban areas for the 2002 to 2006 timeframe, as calculated by the U.S. Department of Labor. Prices in the Midwest Urban area have risen at an average of 2.2 percent over the past five years, while the nationwide average is 2.6 percent. Table 1.4 displays a detailed comparison of the two for 1996 to present, including the average index value and annual growth rate. As can be seen from both, the Midwest Urban Areas have mirrored fluctuations in national trends.

Figure 1.2 Average Annual Change in Consumer Price Index
2002 to 2006^a



^a U.S. Department of Labor, Bureau of Labor Statistics. Available at <http://www.bls.gov/bls/inflation.htm>.

Table 1.4 Consumer Price Index
1996 to 2006^a

Year	U.S. City Average		Midwest Urban	
	Average Annual Index	Change from Previous Year	Average Annual Index	Change from Previous Year
1996	156.9	3.0%	153.0	3.1%
1997	160.5	2.3%	156.7	2.4%
1998	163.0	1.6%	159.3	1.7%
1999	166.6	2.2%	162.7	2.1%
2000	172.2	3.4%	168.3	3.4%
2001	177.1	2.8%	172.8	2.7%
2002	179.9	1.6%	174.9	1.2%
2003	184.0	2.3%	178.3	1.9%
2004	188.9	2.7%	182.6	2.4%
2005	195.3	3.4%	188.4	3.2%
2006	201.6	3.2%	193.0	2.4%

^a Capital Area Regional Planning Commission. *2006 Regional Trends*. Available at <http://www.danecorpc.org/>.

1.3 PROJECT DESCRIPTION

The proposed Transport 2020 project will utilize diesel multiple unit vehicles (“DMU,” self-propelled coaches) or new hybrid technology commuter rail vehicles, and will operate in an existing rail corridor under temporal separation from freight service. The corridor runs from the Highway 12/14 interchange in Middleton, through the Isthmus, to Reiner Road in Sun Prairie. The project serves many of metropolitan Madison’s major employment, entertainment, and shopping destinations, and complements the existing bus system.

As shown in Figure 1.3, the project includes 17 stations along a 16.1-mile alignment from Stonefield Court on the west to State Route 30 on the east. In order to provide cost effective and frequent service in Madison’s core, trains will operate on two overlapping routes, identified as the east branch and the west branch. The east branch operates from Reiner Road near Sun Prairie, through downtown Madison, to Whitney Way/Hill Farms. The west branch runs from Middleton to Fair Oaks, east of the Isthmus. Thus, frequent overlapping service operates between Whitney Way/Hill Farms and Fair Oaks.

The proposed service will be operated with DMU or hybrid technology commuter rail vehicles sharing track with Union Pacific and Wisconsin and Southern Railroad freight trains (temporal separation of freight and passenger rail service is assumed). The tracks that currently are in place will be rehabilitated to accommodate the passenger service. Nine single-car trains will be required for the weekday peak service. The planned fleet of 11 vehicles includes two spares. The service design would provide 70 daily trips on weekdays and 40 trips on Saturdays on each branch. Initially, Sunday service and other special event service will be offered as demand warrants.²

1.4 PROJECT SCHEDULE

Table 1.5 shows a preliminary, generalized schedule for project development through construction.

² Transport 2020. *Madison Wisconsin Operating Alternatives: Task 4 Revised Operating Costs*. January 31, 2008.

Table 1.5 Project Schedule

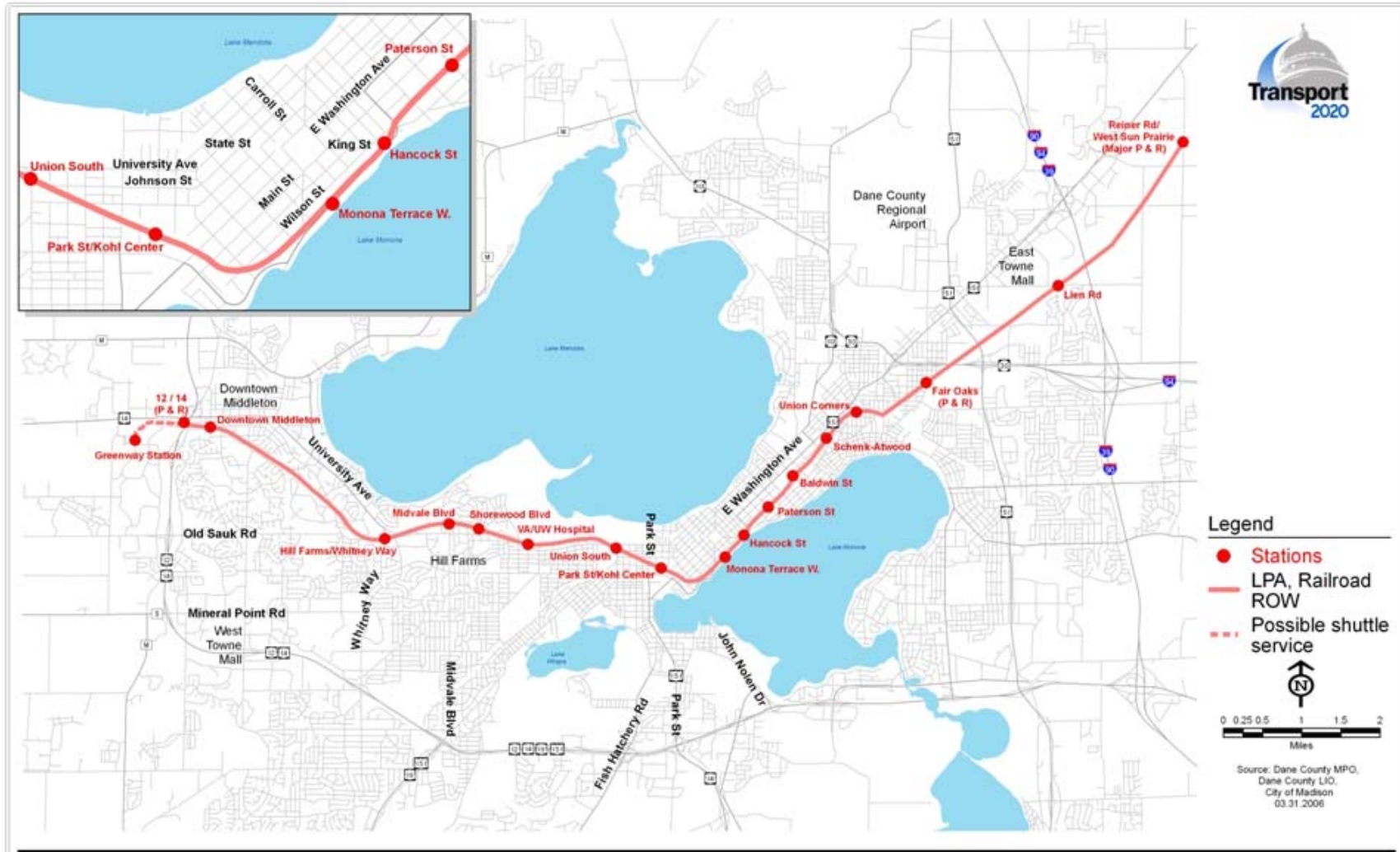
Stage	Task	Start	Finish
AA / DEIS	Draft Environmental Impact Statement	January 2008	October 2009
	Definition of Alternatives	April 2006	September 2007
	Transit Supportive Land Use	May 2006	February 2007
	Ridership Forecasting	April 2006	October 2007
	Capital and O&M Cost Estimates	May 2006	October 2007
	Evaluation of Alternatives	October 2007	November 2007
	Prepare Project Plans	January 2007	May 2007
	Develop Financial Plan	August 2007	May 2008
	Preparation of FTA New Starts Report	June 2007	May 2008
	FTA Application for PE Funding	June 2008	June 2008
FTA Decision on Entering Preliminary Engineering			November 2008
PE / FEIS	Conduct Preliminary Engineering	January 2009	June 2010
	FTA Application for FD Funding	June 2010	June 2010
FTA Intent to Approve Entering Final Design			October 2010
Public Referendum ^a			November 2010
FD	Conduct Final Engineering and Design	October 2010	October 2011
FTA Decision on Full Funding Grant Agreement			January 2012
Implementation of RTA Sales Tax ^b			January 2012
Construct	Procurement and Construction	April 2012	July 2014
	Training and Testing	July 2014	January 2015
	Service Implementation	January 2015	

Source: Transport 2020 *Project Management Plan*. Draft, April 2008.

^a Public referendum date is tentative, depending on satisfactory completion of project milestones.

^b Implementation of RTA sales tax is dependent on FTA approval of Full Funding Grant Agreement.

Figure 1.3 Transport 2020 Commuter Rail Project Alignment



Source: Transport 2020.

2.0 Capital Plan

This section summarizes the assumptions and methodologies used to develop the RTA's capital plan, which focuses on the implementation of the Transport 2020 commuter rail project. The purpose of this section is to demonstrate that the RTA has the financial capacity to fund the construction costs of the proposed transit system.

2.1 PROJECT CAPITAL COST ESTIMATES AND SCHEDULE

Project capital costs for the Transport 2020 Commuter Rail project are estimated to be \$245,952,000 in constant 2007 dollars, not including construction cost escalation through the time of implementation or finance charges as described in Section II.3.³ Capital cost estimates were prepared using quantity take-offs from the conceptual design of the Locally Preferred Alternative (LPA) and unit costs derived from industry publications, internal consultant team sources, and local City of Madison and Wisconsin DOT construction costs.

Cost estimates were developed for Low Cost, Most Likely Cost, and High Cost scenarios. The cost scenarios reflect uncertainty in the estimates of quantities arising from the design, from the possible need to select alternate designs for a specific item, or from anticipated market variation in unit costs (new technology, quantity discount, soft markets, etc.). For the AA Stage, contingencies amounting to 24 percent of total project cost have been assumed, which is typical for conceptual engineering work in general.

Cost estimates were prepared and summarized in FTA Standard Cost Categories (SCC) format, as described in the SCC worksheets.⁴ The SCC worksheets are included in Section 4.0 of the New Starts submittal.

The project construction schedule assumes initiation of revenue service in early 2015. The majority of the construction expense is incurred in 2012, 2013, and 2014. It is assumed that options to purchase right-of-way are secured in 2011, with payment in 2012 following FTA approval of the Full Funding Grant Agreement (FFGA).

³ Project capital costs including construction-period finance charges are \$255,308,371 expressed in constant 2007 dollars. Costs in year of expenditure dollars are described in Table 2.2.

⁴ Transport 2020. Standardized Cost Categories worksheets in "T2020_Build_Standard_Cost_Categories_2008-05-21-Draft.xls."

An annual construction cost escalation rate of 4.91 percent per year is assumed, based on the U.S. Army Corps of Engineers Civil Works Construction Cost Index System (CWCCIS) for the period of Federal fiscal year 2003 to 2007.⁵ This five-year compound annual growth rate reflects increases in construction costs for roads, railways, and bridges in Wisconsin. Because increases in recent years have been relatively high, the five-year growth rate is higher than the 10-year growth rate of 3.40 percent. Table 2.1 summarizes the change in the cost index over the last 10 years.

Table 2.1 Construction Cost Escalation History
1998 to 2007

Federal Fiscal Year	Year-Over-Year Growth	
	National Index	Wisconsin Adjusted
1998	0.8%	3.7%
1999	2.2%	2.2%
2000	1.4%	0.4%
2001	1.0%	1.0%
2002	3.2%	4.2%
2003	2.2%	3.2%
2004	8.3%	7.3%
2005	5.5%	6.5%
2006	4.5%	1.6%
2007	4.1%	4.4%
CAGR 1998 to 2007	3.59%	3.40%
CAGR 2003 to 2007	5.58%	4.91%

Source: U.S. Army Corps of Engineers Civil Works Construction Cost Index System for Roads, Railroads, and Bridges. Available at <http://www.usace.army.mil/publications/eng-manuals/em1110-2-1304/entire.pdf>

Note: FY2007 values are as projected by U.S. Army Corps of Engineers. CAGR = Compound Annual Growth Rate.

⁵ U.S. Army Corps of Engineers. Civil Works Construction Cost Index System. Revised September 30, 2007. Available at <http://www.usace.army.mil/publications/eng-manuals/em1110-2-1304/entire.pdf>.

Table 2.2 shows the effects of the construction schedule and escalation assumptions on total project capital expenditures. The table shows annual expenditures by SCC category in year of expenditure dollars, including finance charges as described in Section 2.3. With escalation, the annual capital expenditure is estimated to be \$4.1 million in 2009, rising to about \$100 million per year during construction from 2012 to 2014, with a maximum of about \$117 million in 2013 during the peak of construction. The escalation and finance charges transform the estimated capital cost of \$246.0 million in constant 2007 dollars into a total project cost of \$337.1 million in year-of-expenditure dollars, including construction-period finance charges.

Table 2.2 Projected Construction Expenditures

SCC Category	2008	2009	2010	2011	2012	2013	2014	2015	Total
Guideway and Track Elements	\$0	\$0	\$0	\$0	\$28,406,883	\$29,802,507	\$15,631,950	\$0	\$73,841,341
Stations, Stops, Terminals, Intermodal	\$0	\$0	\$0	\$0	\$9,845,178	\$10,328,869	\$5,418,162	\$0	\$25,592,209
Support Facilities: Yards, Shops, Administration Buildings.	\$0	\$0	\$0	\$0	\$7,195,139	\$7,548,635	\$0	\$0	\$14,743,775
Sitework and Special Conditions	\$0	\$0	\$0	\$0	\$3,432,975	\$3,601,636	\$1,888,592	\$0	\$8,923,204
Systems	\$0	\$0	\$0	\$0	\$14,716,926	\$30,878,598	\$32,395,656	\$0	\$77,991,180
ROW, Land, Existing Improvements	\$0	\$0	\$0	\$0	\$12,228,305	\$0	\$0	\$0	\$12,228,305
Vehicles	\$0	\$0	\$0	\$0	\$21,946,383	\$23,024,604	\$24,154,398	\$0	\$69,125,385
Professional Services	\$0	\$4,123,122	\$5,022,004	\$10,073,470	\$5,892,363	\$7,064,594	\$9,766,122	\$0	\$41,941,675
Finance Charges	\$0	\$0	\$0	\$0	\$1,560,108	\$4,348,295	\$6,810,069	\$0	\$12,718,472
Project Total	\$0	\$4,123,122	\$5,022,004	\$10,073,470	\$105,224,261	\$116,597,739	\$96,064,949	\$0	\$337,105,545
Allocated Contingency									\$62,576,073

Note: 1) All figures expressed in year-of-expenditure dollars; and 2) Allocated contingency shown in table corresponds to \$47,366,000 value described above when expressed in constant 2007 dollars.

2.2 PROJECT CAPITAL FUNDING

The project is assumed to be financed by a combination of Federal and local RTA funding sources. The funding sources are described in this section.

2.2.1 FTA New Starts Capital Grant

This Financial Plan assumes that the project will successfully compete for discretionary Section 5309 New Starts funding from the Federal Transit Administration (FTA) to cover nearly 60 percent of project capital costs. The total Federal New Starts funding is assumed to amount to \$186.9 million, based on the year-of-expenditure project construction cost described above. Funds are assumed to be available following the execution of a FFGA with the FTA in January 2012. Annual amounts of more than \$50 million are needed in each of the three construction years from 2012 to 2014.

2.2.2 Interim Funding Sources

The majority of the non-Federal share of the funding for the project will come from a share of the planned Dane County sales tax. However, because the sales tax will not be implemented until January 2012, a total of \$6.8 million from a combination of Federal, state, and local sources will be used to fund project development activities (professional services) through the FTA decision on entering Final Design in October 2010. A further \$12.5 million from Federal, state, and local sources will be used to fund project development activities (professional services) through the execution of the FFGA in January 2012.

This Financial Plan assumes that Federal funding will be available to support 80 percent of the costs of project development activities (professional services) before the execution of a New Starts FFGA in January 2012, including Preliminary Engineering, the Final Environmental Impact Statement, and Final Design. This is consistent with the level of Federal participation from earmarks and other sources for Transport 2020 project development activities to date.

The Wisconsin Department of Transportation has pledged \$2.0 million for alternatives analysis, Environmental Impact Statement activities, and some preliminary engineering work, of which approximately \$1,250,000 remains available for future activities.

Dane County plans to make available funds from general bond proceeds to cover the remainder of project development costs through the initiation of the sales tax. When the sales tax is introduced, the RTA will reimburse Dane County for those contributions. This Financial Plan assumes that the RTA will pay interest at a six percent annual rate on this interim funding. The total liability for the RTA is expected to amount to \$2.8 million in 2012.

2.2.3 RTA Direct Capital Investment

The RTA will cover the remainder of the capital costs of the project from local sales tax and bond proceeds, which amounts to \$133.8 million. This funding will be derived from the project's share of the planned Dane County sales tax, which is expected to generate \$17.4 million in 2012. The RTA plans to issue about \$98 million in bonds backed by revenues from the sales tax to cover a portion of the local share of the project's construction costs. The revenue forecasts for the sales tax are described in more detail in Section 3.3.

Table 2.3 summarizes the funding sources and levels of commitment for the Transport 2020 commuter rail project. The values correspond to the estimated construction cost of \$246.0 million in constant 2007 dollars, but reflect year of expenditure dollars and construction-period finance charges as described above.

Table 2.3 Project Funding Sources

Sources of Funds	Funding Level	Funding Share	Level of Commitment
<i>Federal Sources</i>			
FTA Section 5309 New Starts	\$186,888,450	55%	Planned
Federal Pre-FFGA Funding	\$15,374,877	5%	Planned
Federal CMAQ Grants	\$0	0%	Planned
<i>Total Federal Funds</i>	<i>\$202,263,327</i>	<i>60%</i>	
<i>Non-Federal Sources</i>			
State Commuter Rail Program	\$0	0%	Planned
State PE Contribution	\$1,250,000	0%	Committed
Local Interim Funding	(\$241,583)	0%	Planned
RTA Bonds	\$97,720,148	29%	Planned
RTA Direct Investment	\$36,113,653	11%	Planned
<i>Total Non-Federal Funds</i>	<i>\$134,842,218</i>	<i>40%</i>	
Total Project Budget	\$337,105,545	100%	

Note: 1) Local Interim Funding reflects net cost to RTA (including interest) after repaying funds lent by Dane County prior to initiation of the RTA sales tax; and 2) All figures expressed in year-of-expenditure dollars.

2.2.4 Other Funding Sources

Although other sources of funding could be applied to the construction of the project, such as Federal funding under the Congestion Mitigation and Air Quality (CMAQ) Program or state funding under the Commuter Rail Development Program, no such capital funding was included as a conservative assumption in this Financial Plan. In 2007, Dane County had several violations of the daily standard for fine particulates which may influence the EPA

designation process – expected by August 2008. If Dane County is designated as nonattainment with the National Ambient Air Quality Standards, then CMAQ funds would become available to the region. Such programs could provide additional resources in the event of project cost overruns or other unforeseen circumstances.

The Commuter Rail Development Program was created under the 2003 to 2005 Wisconsin State Budget (2003 Wisconsin Act 33) to provide grants in partial support of engineering, property acquisition, equipment acquisition, and infrastructure construction projects related to the development or extension of commuter rail transit systems in the State. By statute, this program may pay up to one-half of the non-Federal share of annual project capital costs or 25 percent of project costs, whichever is less.⁶ No funds for construction of commuter rail projects have been appropriated to this program to date.

2.3 ADEQUACY OF LOCAL FINANCIAL COMMITMENT

The proposed RTA sales tax, combined with the issuance of debt against future sales tax proceeds, is expected to be adequate to fund the project's non-Federal share. Table 2.4 shows the capital account cash flows associated with the project during the construction and operations period through the project horizon of 2030. Expenditures in 2015 and beyond include debt service of bonds issued to support the project's capital costs.

2.3.1 Borrowing, Debt Level and Ratings

Some borrowing will likely be needed during construction in 2012 to 2014 to meet the large annual demand for resources during this intensive period. This Financial Plan assumes that the RTA will issue bonds for \$34.7 million in 2012, \$35.5 million in 2013, and \$27.6 million in 2014 to meet construction obligations not covered by accumulated tax revenues. This debt amounts to about \$98 million, or 73 percent of the RTA's total capital contribution to the project.

The Financial Plan assumes that the RTA will have a similar rating as the Miller Park Stadium Authority, a special-purpose public authority supported by a 0.1 percent sales tax in five counties in the Milwaukee metropolitan area. Based on experience with the stadium bonds, it is assumed that the RTA will issue bonds with a 20-year maturity at 4.5 percent, resulting in annual debt service costs of \$7.8 million. A total amount of \$12.7 million is expected to be incurred as finance charges during the construction period through the initiation of revenue service in early 2015.

⁶ State of Wisconsin Statutes. *Section 85.064: Commuter Rail Transit System Development Grant Program.*

The debt service coverage ratios (after O&M costs are covered) rise from about 2 to more than 20 through the construction and operating period ending in 2030, which suggests that the RTA has the capacity to support a higher level of debt than the level currently assumed in this Financial Plan.

2.3.2 Contingencies

The capital cost estimate includes a 24 percent contingency applied to the construction costs, which reflects the current level of design and the uncertainties inherent in the development of similar projects. The contingency is estimated at \$47.4 million dollars (constant 2007 dollars). This contingency is conservative and provides for potential cost increases as the project advances through the design process.

However, if project cost overruns exceed the levels included in the contingency, some project cost overruns may be accommodated within the RTA's unused borrowing authority. For example, if total project construction costs rise to the "High Cost" construction cost scenario following execution of a Full Funding Grant Agreement with the FTA, the RTA would be able to complete the project with somewhat less than twice as much debt. Under this scenario, the RTA would be able to maintain positive cash balances in its combined capital and operating accounts throughout the analysis period. The RTA also would be able to maintain adequate debt service coverage ratios throughout this period. This scenario is described in more detail in Section 4.2.

2.3.3 Potential Actions in the Event of Federal Funding Shortfalls

Likewise, if Federal funding does not meet expectations in terms of either magnitude or timing, some project funding shortfalls may be accommodated within the RTA's unused borrowing authority. Although the project should receive a larger share, if New Starts funding amounted to only 50 percent of the project cost (or about \$150 million), the RTA would be able to complete the project with somewhat greater debt. Under this scenario, the RTA would be able to maintain positive cash balances in its combined capital and operating accounts throughout the analysis period. The RTA also would be able to maintain adequate debt service coverage ratios throughout this period. This scenario is also described in more detail in Section 4.2.

Table 2.4 Project Capital Cash Flow

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Capital Revenues																							
FTA Section 5309 New Starts	0	0	0	\$59.3	\$70.0	\$57.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$186.9
Federal Pre-FFGA Funding	\$3.3	\$4.0	\$8.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$15.4
Federal CMAQ Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Commuter Rail Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State PE Contribution	\$0.4	\$0.5	\$0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$1.3
Local Interim Funding	\$0.4	\$0.5	\$1.7	-\$2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-\$0.2
RTA Direct Capital Investment	0	0	0	\$14.1	\$11.2	\$10.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$160.3
Long-Term Bond Proceeds	0	0	0	\$34.7	\$35.5	\$27.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$97.7
Total Capital Revenues	\$4.1	\$5.0	\$10.1	\$105.2	\$116.6	\$96.1	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$461.3
Capital Expenditures																							
T2020 Commuter Rail Project	\$4.1	\$5.0	\$10.1	\$103.7	\$112.2	\$89.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$324.4
Long-Term Debt Service	0	0	0.0	\$1.6	\$4.3	\$6.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$136.9
Total Capital Expenditures	\$4.1	\$5.0	\$10.1	\$105.2	\$116.6	\$96.1	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$461.3

Note: All figures expressed in millions of year-of-expenditure dollars. Totals may not add due to rounding.

3.0 Operating Plan

This section summarizes the assumptions and methodologies used to develop the RTA's operating plan, which focuses on the operation of the Transport 2020 Commuter Rail New Start project. The purpose of this section is to demonstrate that the RTA has the financial capacity to operate the project through at least the planning horizon of the project in 2030.

3.1 PROJECT OPERATING PLAN

The Transport 2020 commuter rail service is planned to operate on upgraded Union Pacific and Wisconsin and Southern Railroad tracks between a park-and-ride facility at U.S. Highway 12/14 in Middleton and a park-and-ride facility at Reiner Road near Sun Prairie (temporal separation of freight and passenger rail service is assumed). The service will operate as two overlapping branches, in order to provide more frequent service through the Madison isthmus (the overlapping segment is between the Whitney Way / Hill Farms and Fair Oaks stations).

Each of the 140 weekday one-way trips (70 on each branch) and 80 Saturday trips (40 on each branch) would serve each of 17 stations en route. This train schedule would provide 20-minute frequencies in the peak-periods on the outer ends of each branch (with 10-minute effective frequencies through the University of Wisconsin campus and Capitol Square). During the offpeak-periods, 40-minute frequencies would be provided on the outer ends of each branch (with 20-minute effective frequencies in the isthmus).

Eleven trains (including two spares) are required to provide peak service. Each train will consist of one articulated DMU or hybrid technology commuter rail vehicle.

The following annual operating statistics are projected for this schedule:

- 30,395 Annual Revenue Train-Hours; and
- 482,548 Annual Revenue Train-Miles.

The proposed operating plan is described in the *Operating Costs* report.⁷

⁷ Transport 2020. *Madison Wisconsin Operating Alternatives: Task 4 Revised Operating Costs*. January 31, 2008.

3.2 ANNUAL OPERATING AND MAINTENANCE COSTS

The Transport 2020 total annual commuter rail operating and maintenance (O&M) costs were developed using a detailed cost allocation model that developed estimates of costs in nine major expense categories. Cost estimates were developed using service statistics from the operating plan as cost drivers.

Table 3.1 Transport 2020 Annual O&M Cost Estimate

Expense Category	Total Expense
Rail Transportation	
Train Crews	\$2,144,010
Dispatching and supervision	\$607,529
Fuel	\$737,022
<i>Transportation Total</i>	<i>\$3,488,562</i>
Maintenance of Equipment	
Labor	\$874,038
Materials	\$633,985
<i>MOE Total</i>	<i>\$1,508,023</i>
Maintenance of Way	
Labor	\$358,962
Materials	\$1,637,961
<i>MOW Total</i>	<i>\$1,996,923</i>
Trackage Fees	
WSOR and UP	\$250,000
<i>Subtotal</i>	<i>\$7,243,508</i>
Administration	
15%	\$1,086,527
Grand Total	\$8,330,039

Note: All figures expressed in constant 2007 dollars.

This process yielded an O&M cost estimate of \$8.3 million in constant 2007 dollars. The estimate reflects proposed changes in Metro Transit bus service associated with introduction of the rail service. Because these changes were found to have a negative impact of more than \$400,000 (about one percent of Metro Transit's annual budget), zero net cost is assumed in this Financial Plan as a conservative assumption. More information on the Metro Transit operating

costs is provided in the *Metro Transit Operating and Maintenance Cost Allocation Model* documentation.⁸

The estimate also includes \$1.1 million in Administrative expenses, which includes the operating costs of the RTA. The development of O&M cost estimates is described in the *Operating Costs* report.⁹

Separate annual growth rates were assumed for each major expense category based on Metro Transit experience between 1997 and 2006, which corresponds to the period since the last major service restructuring. Metro Transit growth rates were adjusted for changes in system productivity using cost drivers associated with each expense category. More information on the Metro Transit operating costs is provided in the *Metro Transit Operating and Maintenance Cost Allocation Model* documentation.¹⁰

Table 3.2 O&M Cost Growth

Expense Category	Total Expense
Rail Transportation	
Train Crews	3.42%
Dispatching and supervision	3.42%
Fuel	10.00%
Maintenance of Equipment	
Labor	3.42%
Materials	2.20%
Maintenance of Way	
Labor	3.42%
Materials	2.20%
Trackage Fees	
WSOR and UP	2.20%
Administration	
Total	2.81%

⁸ Transport 2020. *Metro Transit Operating and Maintenance Cost Allocation Model*. Draft January 10, 2008.

⁹ Transport 2020. *Madison Wisconsin Operating Alternatives: Task 4 Revised Operating Costs*. January 31, 2008.

¹⁰Transport 2020. *Metro Transit Operating and Maintenance Cost Allocation Model*. Draft January 10, 2008.

These category-specific inflation rates result in an overall compounded annual growth rate in Transport 2020 O&M costs of 4.5 percent through the analysis period. This growth assumption results in an annual operating and maintenance (O&M) cost ranging from \$11.2 million in 2015 to \$21.5 million in 2030.

3.3 ANNUAL OPERATING REVENUES

The operating and maintenance costs of the project are assumed to be financed by a combination of Federal, state, and local RTA funding sources. These funding sources include:

3.3.1 Federal Section 5307 Operating Assistance

The FTA Section 5307 Urbanized Area Formula Program distributes funding to regional transit agencies based on population; population density; bus and fixed guideway revenue vehicle miles; and bus and fixed guideway passenger miles. As shown in Table 3.3, FTA Section 5307 Urbanized Area Formula Program funding has covered 10.6 percent of operating costs in Madison between 2001 and 2005. Funding levels from this source have grown at an annual rate of 7.7 percent between 2001 and 2005. Assuming that this funding covers 10 percent of Transport 2020 O&M expenses and grows at a five percent annual rate (about one-half of the statewide growth rate of 9.6 percent), Federal formula funding amounts to \$1.4 million in 2017, rising to \$2.7 million in 2030. No Federal funding is included in the first two years of operations to allow time for national formula adjustments.

In 2006, regions with commuter rail received a floor amount of formula funding of \$7,652,551, plus apportionments based on the other criteria. It is likely that the region would qualify for a greater level of Federal operating assistance than assumed in this Financial Plan.

3.3.2 State Section 85.020 Mass Transit Operating Assistance

This state program currently provides about \$100 million annually to fund local urban public transit system operations in Wisconsin. Commuter rail operations would be eligible under this program. This program is now widely used by urban bus transit and taxi systems and total program funding would need to be increased to also fund commuter rail. As shown in Table 3.3, state funding covered 39.7 percent of transit operating expenses in Madison between 2001 and 2005. It is assumed that funding from this program will cover 40 percent of commuter rail operating and maintenance costs. Statewide funding levels from this source have grown at an annual rate of 1.5 percent from 2001 to 2005, and total program funding has not changed significantly since 2003. It is assumed that this funding will grow at an average annual rate of 1.5 percent per year following a one-time increase in overall appropriations to cover commuter rail operating costs. Accordingly, state formula funding amounts to \$3.7 million in 2015, rising to \$4.6 million in 2030.

**Table 3.3 Historical Transit Operating Funding in Madison
2001 to 2005**

	2001	2002	2003	2004	2005	Total	Compound Annual Growth Rate	Share of Total
Operating Expense								
Metro Transit	\$40,091,000	\$36,063,819	\$35,848,854	\$36,657,732	\$39,462,558	\$188,123,963	-0.4%	
<i>Statewide Total</i>	<i>\$233,364,406</i>	<i>\$239,861,178</i>	<i>\$244,100,394</i>	<i>\$251,567,051</i>	<i>\$259,940,165</i>	<i>\$1,228,833,194</i>	<i>2.7%</i>	
Federal								
Metro Transit	\$3,600,000	\$3,458,057	\$3,665,540	\$4,382,160	\$4,842,244	\$19,948,001	7.7%	10.6%
<i>Statewide Total</i>	<i>\$31,056,771</i>	<i>\$33,392,529</i>	<i>\$35,651,754</i>	<i>\$40,389,402</i>	<i>\$44,811,587</i>	<i>\$185,302,043</i>	<i>9.6%</i>	<i>15.1%</i>
State								
Metro Transit	\$14,297,600	\$14,869,500	\$15,166,900	\$15,166,900	\$15,166,900	\$74,667,800	1.5%	39.7%
<i>Statewide Total</i>	<i>\$93,006,500</i>	<i>\$96,726,800</i>	<i>\$98,661,399</i>	<i>\$98,661,320</i>	<i>\$98,661,400</i>	<i>\$485,717,419</i>	<i>1.5%</i>	<i>39.5%</i>
Local								
Metro Transit	\$13,913,788	\$9,021,584	\$8,316,218	\$7,426,859	\$11,556,735	\$50,235,184	-4.5%	26.7%
<i>Statewide Total</i>	<i>\$45,841,095</i>	<i>\$43,262,249</i>	<i>\$46,597,834</i>	<i>\$44,234,068</i>	<i>\$49,739,072</i>	<i>\$229,674,318</i>	<i>2.1%</i>	<i>18.7%</i>
Farebox								
Metro Transit	\$8,279,612	\$8,714,678	\$8,700,195	\$9,681,813	\$7,896,679	\$43,272,977	-1.2%	23.0%
<i>Statewide Total</i>	<i>\$63,460,039</i>	<i>\$66,479,600</i>	<i>\$63,189,407</i>	<i>\$68,282,261</i>	<i>\$66,728,106</i>	<i>\$328,139,413</i>	<i>1.3%</i>	<i>26.7%</i>

Source: Wisconsin Department of Transportation. Transit Public Funding Distribution by Calendar Year, 1977 to 2005.

3.2.3 Project Farebox Revenues

Farebox revenues are estimated based on annual ridership forecasts and average fare assumptions. Ridership is assumed to grow in a linear manner between a 2002 forecast of 6,583 passengers per weekday and a 2030 forecast of 10,980 passengers per weekday, based on patronage forecasts presented in Section 3.0 of the New Starts submittal. To develop annual forecasts, an annualization factor of 260 typical weekdays per year is used. This is considered to be a conservative assumption, since commuter rail service also is assumed to operate on weekends. This reflects an annual ridership of 1,712,000 unlinked trips in 2002 and 2,855,000 unlinked trips in 2030. By linear interpolation, opening year ridership is estimated to be 2,242,000 in 2015, rising to 2,855,000 in 2030. These annual ridership forecasts are multiplied by an average fare based on current Metro Transit fare schedules (\$1.50 base fare). To reflect the high-level of pass usage in Madison, particularly among university students, fare revenue per unlinked trip of \$0.78 in constant 2007 dollars is used. Fare levels are assumed to increase with inflation at an average annual rate of 2.2 percent. Opening year average fare is thus \$0.93 in 2015, rising to \$1.29 in 2030. This yields farebox revenues ranging from \$2.1 million in 2015 to \$3.7 million in 2030. Farebox recovery ratios fluctuate between 17 and 19 percent, for an average of 18.1 percent over the analysis period.

No other potential system-generated revenues, such as from advertising, concessions, real estate, or commuter parking fees, are included in this Financial Plan.

3.2.4 RTA Sales Tax

Decision-makers in Dane County have agreed in concept to a 0.5 percent sales tax to fund regional transportation improvements in the future. Although there is some flexibility in the allocation between uses of the tax, this Financial Plan assumes that one-third of the proceeds will be dedicated to the implementation and operation of the Transport 2020 Commuter Rail Project. The sales tax is assumed to be approved by referendum in November 2010, following indication by FTA of its intent to approve entry into Final Design. Collection of the tax will be contingent on FTA approval of the FFGA. Accordingly, the sales tax is assumed to be implemented after completion of the Final Design Phase, or January 1, 2012.

The sales tax corresponds in tax base and tax rate to a county option sales tax imposed in Dane County in 1991. Since 1993, the sales tax revenues have increased from about \$20.0 million to \$42.5 million in 2006, which corresponds to a compounded annual growth rate of six percent. Since 2002, the sales tax revenues have increased at an annual rate of 3.5 percent. Assuming this lower growth rate going forward, the Transport 2020 share of the sales tax is expected to amount to \$17.4 million in 2012 and \$32.2 million in 2030.

Table 3.4 Dane County Option Sales Tax Revenues
2002 to 2006

	2002	2003	2004	2005	2006	2002 to 2006 Compound Annual Growth Rate
Dane County Sales Tax Revenues	\$37.0	\$38.4	\$41.1	\$41.3	\$42.5	3.5%

Source: Wisconsin Department of Revenue.

3.2.5 Bond Proceeds

The RTA is considering a legislative request for bond authority backed by the sales tax revenue stream. The cash flow analysis assumes that the RTA will borrow as needed during the construction and operations periods to maintain a positive cash balance and adequate cash flow to cover at least 150 percent of debt service requirements.

Borrowing during the operations period is assumed to be made using short-term debt at higher commercial rates. Commercial bonds that mature over five years at a six percent annual interest rate are assumed.

3.4 ADEQUACY OF LOCAL FINANCIAL COMMITMENT

The proposed RTA sales tax, combined with the issuance of debt against future tax proceeds, is expected to be adequate to fund the project. Table 3.5 shows the RTA's combined capital and operating account cash flows associated with the project during the analysis period. Because the RTA is a new entity, the cash flow forecast does not include any historical data.

3.4.1 Description of Cash Reserves for Potential Cost Increases

The RTA is expected to accumulate a rising cash surplus/reserve in each year after initiation of rail service ranging from \$5.6 million in 2015 to more than \$13 million in 2030, resulting in an accumulated fund balance of more than \$180 million by 2030. This positive cash flow provides substantial reserves for unforeseen increases in capital or operating costs, reductions in subsidies from other levels of government, of shortfalls in ridership or fare revenue. The project sponsors view that any reserve also may support planning and implementation of transit expansion to the airport and other communities.

Table 3.5 Project Capital and Operating Cash Flow

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	
Operating																								
<i>Operating Revenues</i>																								
FTA Section 5307 Formula Program	0	0	0	0	0	0	0	0	\$1.4	\$1.5	\$1.6	\$1.6	\$1.7	\$1.8	\$1.9	\$2.0	\$2.1	\$2.2	\$2.3	\$2.4	\$2.6	\$2.7	\$27.9	
State Transit Operating Assistance	0	0	0	0	0	0	\$3.7	\$3.8	\$3.8	\$3.9	\$3.9	\$4.0	\$4.0	\$4.1	\$4.2	\$4.2	\$4.3	\$4.4	\$4.4	\$4.5	\$4.6	\$4.6	\$66.3	
RTA Sales Tax Revenue	0	0	0	\$17.4	\$18.0	\$18.6	\$19.3	\$19.9	\$20.6	\$21.3	\$22.1	\$22.8	\$23.6	\$24.5	\$25.3	\$26.2	\$27.1	\$28.1	\$29.0	\$30.0	\$31.1	\$32.2	\$457.1	
T2020 Farebox Revenues	0	0	0	0	0	0	\$2.1	\$2.2	\$2.3	\$2.3	\$2.4	\$2.5	\$2.6	\$2.7	\$2.8	\$2.9	\$3.1	\$3.2	\$3.3	\$3.4	\$3.5	\$3.7	\$45.1	
Short-Term Bond Proceeds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Total Operating Revenues</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$17.4</i>	<i>\$18.0</i>	<i>\$18.6</i>	<i>\$25.0</i>	<i>\$25.8</i>	<i>\$28.1</i>	<i>\$29.0</i>	<i>\$30.0</i>	<i>\$31.0</i>	<i>\$32.1</i>	<i>\$33.1</i>	<i>\$34.2</i>	<i>\$35.4</i>	<i>\$36.6</i>	<i>\$37.8</i>	<i>\$39.1</i>	<i>\$40.4</i>	<i>\$41.7</i>	<i>\$43.2</i>	<i>\$596.5</i>	
<i>Operating Costs</i>																								
RTA Reserve Fund	0	0	0	0	0	0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$1.1	
T2020 O&M Expenses	0	0	0	0	0	0	\$11.2	\$11.6	\$12.1	\$12.5	\$13.1	\$13.6	\$14.2	\$14.8	\$15.5	\$16.2	\$16.9	\$17.7	\$18.6	\$19.5	\$20.4	\$21.5	\$249.2	
Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Total Operating Costs</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$11.7</i>	<i>\$11.6</i>	<i>\$12.1</i>	<i>\$12.6</i>	<i>\$13.1</i>	<i>\$13.6</i>	<i>\$14.2</i>	<i>\$14.9</i>	<i>\$15.5</i>	<i>\$16.2</i>	<i>\$17.0</i>	<i>\$17.7</i>	<i>\$18.6</i>	<i>\$19.5</i>	<i>\$20.5</i>	<i>\$21.5</i>	<i>\$250.3</i>	
Balance from Operations	0	0	0	\$17.4	\$18.0	\$18.6	\$13.3	\$14.2	\$16.0	\$16.5	\$16.9	\$17.4	\$17.8	\$18.3	\$18.7	\$19.2	\$19.6	\$20.0	\$20.5	\$20.9	\$21.3	\$21.6	\$346.2	
Capital																								
<i>Capital Revenues</i>																								
FTA Section 5309 New Starts	0	0	0	\$59.3	\$70.0	\$57.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$186.9	
Federal Pre-FFGA Funding	\$3.3	\$4.0	\$8.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$15.4	
Federal CMAQ Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
State Commuter Rail Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
State PE Contribution	\$0.4	\$0.5	\$0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$1.3	
Local Interim Funding	\$0.4	\$0.5	\$1.7	-\$2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-\$0.2	
Long-Term Bond Proceeds	0	0	0	\$34.7	\$35.5	\$27.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$97.7	
<i>Total Capital Revenues</i>	<i>\$4.1</i>	<i>\$5.0</i>	<i>\$10.1</i>	<i>\$91.1</i>	<i>\$105.4</i>	<i>\$85.2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$301.0</i>	
<i>Capital Expenditures</i>																								
T2020 Commuter Rail Project	\$4.1	\$5.0	\$10.1	\$103.7	\$112.2	\$89.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$324.4	
Long-Term Debt Service	0	0	0	\$1.6	\$4.3	\$6.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$7.8	\$136.9
<i>Total Capital Expenditures</i>	<i>\$4.1</i>	<i>\$5.0</i>	<i>\$10.1</i>	<i>\$105.2</i>	<i>\$116.6</i>	<i>\$96.1</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$7.8</i>	<i>\$461.3</i>	
Change in Capital Costs	0	0	0	-\$14.1	-\$11.2	-\$10.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$7.8	-\$160.3	
Beginning Cash Balance	0	0	0	0	\$3.3	\$10.1	\$17.9	\$23.4	\$29.9	\$38.2	\$46.9	\$56.0	\$65.6	\$75.7	\$86.2	\$97.2	\$108.6	\$120.4	\$132.7	\$145.4	\$158.6	\$172.1		
Change to Cash Balance	0	0	0	\$3.3	\$6.8	\$7.8	\$5.6	\$6.5	\$8.3	\$8.7	\$9.2	\$9.6	\$10.1	\$10.5	\$11.0	\$11.4	\$11.9	\$12.3	\$12.7	\$13.1	\$13.5	\$13.9	\$186.0	
Ending Cash Balance	0	0	0	\$3.3	\$10.1	\$17.9	\$23.4	\$29.9	\$38.2	\$46.9	\$56.0	\$65.6	\$75.7	\$86.2	\$97.2	\$108.6	\$120.4	\$132.7	\$145.4	\$158.6	\$172.1	\$186.0		

Note: All figures expressed in millions of year-of-expenditure dollars. Totals may not add due to rounding

4.0 Risks and Uncertainties

This Financial Plan includes conservative assumptions in the form of capital cost contingencies, funding levels below historical experience or reasonable expectations from various revenue sources, and low growth rates in revenue sources in its conclusion that the RTA has adequate financial resources to construct and implement the Transport 2020 commuter rail project.

If future conditions are worse than the conservative assumptions reflect, the RTA has cash reserves and bonding capacity to cover many more pessimistic scenarios.

4.1 SENSITIVITY ANALYSIS METHODOLOGY

A sensitivity analysis was conducted that consists of several “stress tests” in which one or more parameters were changed to evaluate the effects of more pessimistic assumptions on the project sponsor’s ability to implement the project. Scenarios included two scenarios that affect finances primarily during the construction period, two scenarios that affect finances primarily during the operations period, and two combined scenarios, as described in Table 4.1.

Table 4.1 Sensitivity Scenarios Evaluated

Scenario	Description
<i>Construction Period Scenarios</i>	
A1	<p>Construction Cost Overruns at the High Cost Scenario</p> <p>The “High Cost” estimate of construction costs reflects an overrun of approximately 24 percent over the “Most Likely Cost” estimate, or a total cost of about \$306.6 million in constant 2007 dollars (not including finance charges). At the same time, the New Starts share remains unchanged to reflect cost overruns that occur after the FFGA is executed. The “High Cost” estimate corresponds to an annual construction cost escalation rate of nearly 10 percent. This rate is significantly greater than the fastest rate of growth in the U.S. Army Corps of Engineers Construction Cost Index System for Roads Railroads, and Bridges, adjusted for Wisconsin, since 1988 of 7.3 percent, which occurred in 2004.</p>
A2	<p>Federal New Starts Share at 50 Percent</p> <p>Although the project should receive a larger share, a 50 percent share was evaluated based on the Congressional Conference Report that accompanied the FY 2002 Department of Transportation Appropriations Act, which instructs “FTA not to sign any new full funding grant agreements after September 30, 2002 that have a maximum Federal share of higher than 60 percent.” A lower New Starts share was tested to explore the potential impacts of further restrictions by Congress on allowable Federal funding levels.</p>

<i>Operating Period Scenarios</i>	
B1	<p>RTA Sales Tax Revenue Growth Stagnant</p> <p>This scenario assumes that there is no growth in RTA sales tax revenues over time from the 2006 level.</p>
B2	<p>Significantly Higher O&M Costs, Significantly Lower Ridership, Stagnant State Operating Assistance, and Slower Growth in RTA Tax Revenues</p> <p>A combination of pessimistic operating period scenarios is evaluated, including O&M costs at 150 percent of estimates, ridership at 50 percent of forecasts, no growth in state operating assistance over time, and growth in RTA sales tax revenues at 2.1 percent per year. The O&M cost and ridership assumptions reflect extreme deviations from forecasts prepared for Transport 2020. The assumption of stagnant state operating funding reflects a long-term freeze in state Section 85.20 Urban Mass Transit Operating Assistance Program funding levels, as occurred between 2003 and 2005. The RTA sales tax assumption reflects slower growth in Dane County retail sales through 2036, based on national macroeconomic forecasts developed by Moody's Economy.com.</p>
<i>Combined Scenarios</i>	
C1	<p>Moderately Higher Construction Costs, Moderately Higher O&M Costs and Lower Ridership, and Slower Growth in RTA Sales Tax Revenues</p> <p>A combination of pessimistic construction scenarios with implications in the construction and operations periods is evaluated, including construction cost overruns (after the FFGA is executed) of 10 percent, O&M costs at 110 percent of estimates, ridership at 90 percent of forecasts, and growth in RTA sales tax revenues per the Moody's Economy.com forecast.</p>

4.2 RESULTS

Under each scenario, the RTA is able to maintain positive cash balances and adequate debt service coverage ratios throughout the construction and operating periods. Some details of changes under each scenario follow:

- **Scenario A1 (Construction Cost Overruns at the High Cost Scenario).** With the increased construction costs and unchanged New Starts contribution, long-term borrowing nearly doubles to about \$182 million. To maintain adequate debt service coverage ratios, a total of about \$26.4 million of short-term borrowing is required in the first six years of operations. The total project surplus/reserve is reduced by more than one-half to about \$70 million in 2030. The cash flow of this scenario is shown in Table 4.2.
- **Scenario A2 (Federal New Starts Share at 50 Percent).** With the increased local share, long-term borrowing rises to about \$140 million. The total project surplus/reserve remains above \$130 million in 2030. The cash flow of this scenario is shown in Table 4.3.
- **Scenario B1 (RTA Sales Tax Revenue Growth Stagnant).** With RTA sales tax revenues capped at \$14.2 million per year, construction period debt increases to about \$112 million. The RTA also accumulates a smaller surplus

during each year of operations, and begins to run a cash operating deficit in 2030. However, the total project surplus/reserve remains above \$40 million in 2030. The cash flow of this scenario is shown in Table 4.4.

- **Scenario B2 (Significantly Higher O&M Costs, Significantly Lower Ridership, Stagnant State Operating Assistance, and Slower Growth in RTA Tax Revenues).** With a combination of pressures, the RTA accumulates a smaller surplus during each year of operations, but maintains positive operating cash flow through 2030. The total project surplus/reserve remains above \$30 million in 2030. The cash flow of this scenario is shown in Table 4.5.
- **Scenario C1 (Moderately Higher Construction Costs, Moderately Higher O&M Costs and Lower Ridership, and Slower Growth in RTA Sales Tax Revenues).** With a combination of pressures, long-term borrowing rises to about \$144 million. The RTA accumulates a smaller surplus/reserve during each year of operations, but maintains positive operating cash flow through 2030. The total project surplus remains above \$50 million. The cash flow of this scenario is shown in Table 4.6.

Table 4.2 Cash Flow – Sensitivity Scenario A1

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	
Operating																								
<i>Operating Revenues</i>																								
FTA Section 5307 Formula Program	0	0	0	0	0	0	0	0	\$1.4	\$1.5	\$1.6	\$1.6	\$1.7	\$1.8	\$1.9	\$2.0	\$2.1	\$2.2	\$2.3	\$2.4	\$2.6	\$2.7	\$27.9	
State Transit Operating Assistance	0	0	0	0	0	0	\$3.7	\$3.8	\$3.8	\$3.9	\$3.9	\$4.0	\$4.0	\$4.1	\$4.2	\$4.2	\$4.3	\$4.4	\$4.4	\$4.5	\$4.6	\$4.6	\$66.3	
RTA Sales Tax Revenue	0	0	0	\$17.4	\$18.0	\$18.6	\$19.3	\$19.9	\$20.6	\$21.3	\$22.1	\$22.8	\$23.6	\$24.5	\$25.3	\$26.2	\$27.1	\$28.1	\$29.0	\$30.0	\$31.1	\$32.2	\$457.1	
T2020 Farebox Revenues	0	0	0	0	0	0	\$2.1	\$2.2	\$2.3	\$2.3	\$2.4	\$2.5	\$2.6	\$2.7	\$2.8	\$2.9	\$3.1	\$3.2	\$3.3	\$3.4	\$3.5	\$3.7	\$45.1	
Short-Term Bond Proceeds	0	0	0	0	0	0	\$6.3	\$4.9	\$3.9	\$4.3	\$5.3	\$1.7	0	0	0	0	0	0	0	0	0	0	\$26.4	
<i>Total Operating Revenues</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$17.4</i>	<i>\$18.0</i>	<i>\$18.6</i>	<i>\$31.3</i>	<i>\$30.7</i>	<i>\$32.0</i>	<i>\$33.3</i>	<i>\$35.3</i>	<i>\$32.7</i>	<i>\$32.1</i>	<i>\$33.1</i>	<i>\$34.2</i>	<i>\$35.4</i>	<i>\$36.6</i>	<i>\$37.8</i>	<i>\$39.1</i>	<i>\$40.4</i>	<i>\$41.7</i>	<i>\$43.2</i>	<i>\$622.9</i>	
<i>Operating Costs</i>																								
RTA Reserve Fund	0	0	0	0	0	0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$1.1	
T2020 O&M Expenses	0	0	0	0	0	0	\$11.2	\$11.6	\$12.1	\$12.5	\$13.1	\$13.6	\$14.2	\$14.8	\$15.5	\$16.2	\$16.9	\$17.7	\$18.6	\$19.5	\$20.4	\$21.5	\$249.2	
Debt Service	0	0	0	0	0	0	\$0.4	\$2.1	\$3.5	\$4.6	\$5.9	\$5.4	\$4.4	\$3.3	\$2.0	\$0.5	0	0	0	0	0	0	\$32.0	
<i>Total Operating Costs</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$12.1</i>	<i>\$13.7</i>	<i>\$15.5</i>	<i>\$17.2</i>	<i>\$19.0</i>	<i>\$19.1</i>	<i>\$18.6</i>	<i>\$18.1</i>	<i>\$17.5</i>	<i>\$16.7</i>	<i>\$17.0</i>	<i>\$17.7</i>	<i>\$18.6</i>	<i>\$19.5</i>	<i>\$20.5</i>	<i>\$21.5</i>	<i>\$282.3</i>	
Balance from Operations	0	0	0	\$17.4	\$18.0	\$18.6	\$19.3	\$17.0	\$16.4	\$16.1	\$16.3	\$13.7	\$13.4	\$15.0	\$16.7	\$18.7	\$19.6	\$20.0	\$20.5	\$20.9	\$21.3	\$21.6	\$340.6	
Capital																								
<i>Capital Revenues</i>																								
FTA Section 5309 New Starts	0	0	0	\$74.2	\$87.6	\$25.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$186.9	
Federal Pre-FFGA Funding	\$3.9	\$4.8	\$9.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$18.4	
Federal CMAQ Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
State Commuter Rail Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
State PE Contribution	\$0.5	\$0.6	\$0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$1.3	
Local Interim Funding	\$0.5	\$0.6	\$2.3	-\$3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-\$0.3	
Long-Term Bond Proceeds	0	0	0	\$48.0	\$49.9	\$83.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$181.5	
<i>Total Capital Revenues</i>	<i>\$4.9</i>	<i>\$6.0</i>	<i>\$12.1</i>	<i>\$118.5</i>	<i>\$137.6</i>	<i>\$108.6</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$387.7</i>	
<i>Capital Expenditures</i>																								
T2020 Commuter Rail Project	\$4.9	\$6.0	\$12.1	\$129.2	\$140.0	\$112.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$404.6	
Long-Term Debt Service	0	0	0	\$2.2	\$6.1	\$11.5	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$14.4	\$250.3
<i>Total Capital Expenditures</i>	<i>\$4.9</i>	<i>\$6.0</i>	<i>\$12.1</i>	<i>\$131.4</i>	<i>\$146.1</i>	<i>\$123.9</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$14.4</i>	<i>\$654.9</i>	
Change in Capital Costs	0	0	0	-\$12.8	-\$8.5	-\$15.3	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$14.4	-\$267.2	
Beginning Cash Balance	0	0	0	0	\$4.5	\$14.0	\$17.3	\$22.2	\$24.8	\$26.8	\$28.5	\$30.5	\$29.7	\$28.7	\$29.4	\$31.6	\$35.9	\$41.1	\$46.7	\$52.8	\$59.3	\$66.1		
Change to Cash Balance	0	0	0	\$4.5	\$9.5	\$3.3	\$4.8	\$2.6	\$2.0	\$1.7	\$1.9	-\$0.7	-\$1.0	\$0.6	\$2.3	\$4.3	\$5.2	\$5.6	\$6.1	\$6.5	\$6.9	\$7.2	\$73.4	
Ending Cash Balance	0	0	0	\$4.5	\$14.0	\$17.3	\$22.2	\$24.8	\$26.8	\$28.5	\$30.5	\$29.7	\$28.7	\$29.4	\$31.6	\$35.9	\$41.1	\$46.7	\$52.8	\$59.3	\$66.1	\$73.4		

Note: All figures expressed in millions of year-of-expenditure dollars. Totals may not add due to rounding.

Table 4.3 Cash Flow – Sensitivity Scenario A2

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Operating																							
<i>Operating Revenues</i>																							
FTA Section 5307 Formula Program	0	0	0	0	0	0	0	0	\$1.4	\$1.5	\$1.6	\$1.6	\$1.7	\$1.8	\$1.9	\$2.0	\$2.1	\$2.2	\$2.3	\$2.4	\$2.6	\$2.7	\$27.9
State Transit Operating Assistance	0	0	0	0	0	0	\$3.7	\$3.8	\$3.8	\$3.9	\$3.9	\$4.0	\$4.0	\$4.1	\$4.2	\$4.2	\$4.3	\$4.4	\$4.4	\$4.5	\$4.6	\$4.6	\$66.3
RTA Sales Tax Revenue	0	0	0	\$17.4	\$18.0	\$18.6	\$19.3	\$19.9	\$20.6	\$21.3	\$22.1	\$22.8	\$23.6	\$24.5	\$25.3	\$26.2	\$27.1	\$28.1	\$29.0	\$30.0	\$31.1	\$32.2	\$457.1
T2020 Farebox Revenues	0	0	0	0	0	0	\$2.1	\$2.2	\$2.3	\$2.3	\$2.4	\$2.5	\$2.6	\$2.7	\$2.8	\$2.9	\$3.1	\$3.2	\$3.3	\$3.4	\$3.5	\$3.7	\$45.1
Short-Term Bond Proceeds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Operating Revenues</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$17.4</i>	<i>\$18.0</i>	<i>\$18.6</i>	<i>\$25.0</i>	<i>\$25.8</i>	<i>\$28.1</i>	<i>\$29.0</i>	<i>\$30.0</i>	<i>\$31.0</i>	<i>\$32.1</i>	<i>\$33.1</i>	<i>\$34.2</i>	<i>\$35.4</i>	<i>\$36.6</i>	<i>\$37.8</i>	<i>\$39.1</i>	<i>\$40.4</i>	<i>\$41.7</i>	<i>\$43.2</i>	<i>\$596.5</i>
<i>Operating Costs</i>																							
RTA Reserve Fund	0	0	0	0	0	0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$1.1
T2020 O&M Expenses	0	0	0	0	0	0	\$11.2	\$11.6	\$12.1	\$12.5	\$13.1	\$13.6	\$14.2	\$14.8	\$15.5	\$16.2	\$16.9	\$17.7	\$18.6	\$19.5	\$20.4	\$21.5	\$249.2
Debt Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total Operating Costs</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$11.7</i>	<i>\$11.6</i>	<i>\$12.1</i>	<i>\$12.6</i>	<i>\$13.1</i>	<i>\$13.6</i>	<i>\$14.2</i>	<i>\$14.9</i>	<i>\$15.5</i>	<i>\$16.2</i>	<i>\$17.0</i>	<i>\$17.7</i>	<i>\$18.6</i>	<i>\$19.5</i>	<i>\$20.5</i>	<i>\$21.5</i>	<i>\$250.3</i>
Balance from Operations	0	0	0	\$17.4	\$18.0	\$18.6	\$13.3	\$14.2	\$16.0	\$16.5	\$16.9	\$17.4	\$17.8	\$18.3	\$18.7	\$19.2	\$19.6	\$20.0	\$20.5	\$20.9	\$21.3	\$21.6	\$346.2
Capital																							
<i>Capital Revenues</i>																							
FTA Section 5309 New Starts	0	0	0	\$47.2	\$59.2	\$49.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$155.8
Federal Pre-FFGA Funding	\$3.3	\$4.0	\$8.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$15.4
Federal CMAQ Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Commuter Rail Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State PE Contribution	\$0.4	\$0.5	\$0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$1.3
Local Interim Funding	\$0.4	\$0.5	\$1.7	-\$2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-\$0.2
Long-Term Bond Proceeds	0	0	0	\$48.5	\$50.1	\$41.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$139.7
<i>Total Capital Revenues</i>	<i>\$4.1</i>	<i>\$5.0</i>	<i>\$10.1</i>	<i>\$92.8</i>	<i>\$109.3</i>	<i>\$90.5</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$311.9</i>
<i>Capital Expenditures</i>																							
T2020 Commuter Rail Project	\$4.1	\$5.0	\$10.1	\$103.7	\$112.2	\$89.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$324.4
Long-Term Debt Service	0	0	0	\$2.2	\$6.1	\$9.7	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$11.1	\$195.5
<i>Total Capital Expenditures</i>	<i>\$4.1</i>	<i>\$5.0</i>	<i>\$10.1</i>	<i>\$105.8</i>	<i>\$118.4</i>	<i>\$98.9</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$11.1</i>	<i>\$519.9</i>
Change in Capital Costs	0	0	0	-\$13.0	-\$9.0	-\$8.4	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$11.1	-\$208.0
Beginning Cash Balance	0	0	0	0	\$4.4	\$13.3	\$23.5	\$25.8	\$28.9	\$33.8	\$39.2	\$45.0	\$51.3	\$58.0	\$65.2	\$72.8	\$80.9	\$89.4	\$98.4	\$107.7	\$117.5	\$127.7	
Change to Cash Balance	0	0	0	\$4.4	\$8.9	\$10.2	\$2.2	\$3.1	\$4.9	\$5.4	\$5.8	\$6.3	\$6.7	\$7.2	\$7.6	\$8.1	\$8.5	\$9.0	\$9.4	\$9.8	\$10.2	\$10.6	\$138.3
Ending Cash Balance	0	0	0	\$4.4	\$13.3	\$23.5	\$25.8	\$28.9	\$33.8	\$39.2	\$45.0	\$51.3	\$58.0	\$65.2	\$72.8	\$80.9	\$89.4	\$98.4	\$107.7	\$117.5	\$127.7	\$138.3	

Note: All figures expressed in millions of year-of-expenditure dollars. Totals may not add due to rounding.

Table 4.4 Cash Flow – Sensitivity Scenario B1

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	
Operating																								
<i>Operating Revenues</i>																								
FTA Section 5307 Formula Program	0	0	0	0	0	0	0	0	\$1.4	\$1.5	\$1.6	\$1.6	\$1.7	\$1.8	\$1.9	\$2.0	\$2.1	\$2.2	\$2.3	\$2.4	\$2.6	\$2.7	\$27.9	
State Transit Operating Assistance	0	0	0	0	0	0	\$3.7	\$3.8	\$3.8	\$3.9	\$3.9	\$4.0	\$4.0	\$4.1	\$4.2	\$4.2	\$4.3	\$4.4	\$4.4	\$4.5	\$4.6	\$4.6	\$66.3	
RTA Sales Tax Revenue	0	0	0	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$14.2	\$268.9
T2020 Farebox Revenues	0	0	0	0	0	0	\$2.1	\$2.2	\$2.3	\$2.3	\$2.4	\$2.5	\$2.6	\$2.7	\$2.8	\$2.9	\$3.1	\$3.2	\$3.3	\$3.4	\$3.5	\$3.7	\$45.1	
Short-Term Bond Proceeds	0	0	0	0	0	0	\$2.8	\$2.6	\$2.2	\$3.0	\$4.7	\$5.0	\$6.4	\$9.1	\$12.3	\$15.8	\$21.3	\$28.5	\$37.2	\$48.2	\$38.3	\$32.4	\$270.0	
<i>Total Operating Revenues</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$14.2</i>	<i>\$14.2</i>	<i>\$14.2</i>	<i>\$22.8</i>	<i>\$22.7</i>	<i>\$23.8</i>	<i>\$24.9</i>	<i>\$26.8</i>	<i>\$27.3</i>	<i>\$29.0</i>	<i>\$31.9</i>	<i>\$35.4</i>	<i>\$39.2</i>	<i>\$44.9</i>	<i>\$52.4</i>	<i>\$61.4</i>	<i>\$72.7</i>	<i>\$63.1</i>	<i>\$57.5</i>	<i>\$678.3</i>	
<i>Operating Costs</i>																								
RTA Reserve Fund	0	0	0	0	0	0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$1.1	
T2020 O&M Expenses	0	0	0	0	0	0	\$11.2	\$11.6	\$12.1	\$12.5	\$13.1	\$13.6	\$14.2	\$14.8	\$15.5	\$16.2	\$16.9	\$17.7	\$18.6	\$19.5	\$20.4	\$21.5	\$249.2	
Debt Service	0	0	0	0	0	0	\$0.2	\$1.0	\$1.7	\$2.4	\$3.4	\$3.9	\$4.7	\$6.1	\$8.1	\$10.5	\$13.9	\$18.6	\$24.7	\$32.6	\$41.3	\$45.9	\$218.8	
<i>Total Operating Costs</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$11.9</i>	<i>\$12.6</i>	<i>\$13.8</i>	<i>\$15.0</i>	<i>\$16.5</i>	<i>\$17.6</i>	<i>\$18.9</i>	<i>\$20.9</i>	<i>\$23.6</i>	<i>\$26.7</i>	<i>\$30.9</i>	<i>\$36.4</i>	<i>\$43.3</i>	<i>\$52.1</i>	<i>\$61.8</i>	<i>\$67.4</i>	<i>\$469.1</i>	
Balance from Operations	0	0	0	\$14.2	\$14.2	\$14.2	\$10.9	\$10.1	\$10.0	\$9.9	\$10.4	\$9.8	\$10.1	\$11.0	\$11.8	\$12.5	\$14.1	\$16.0	\$18.0	\$20.6	\$1.3	-\$9.9	\$209.2	
Capital																								
<i>Capital Revenues</i>																								
FTA Section 5309 New Starts	0	0	0	\$59.4	\$70.3	\$57.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$186.9	
Federal Pre-FFGA Funding	\$3.3	\$4.0	\$8.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$15.4	
Federal CMAQ Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
State Commuter Rail Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
State PE Contribution	\$0.4	\$0.5	\$0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$1.3	
Local Interim Funding	\$0.4	\$0.5	\$1.7	-\$2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-\$0.2	
Long-Term Bond Proceeds	0	0	0	\$38.3	\$40.3	\$33.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$112.3	
<i>Total Capital Revenues</i>	<i>\$4.1</i>	<i>\$5.0</i>	<i>\$10.1</i>	<i>\$94.9</i>	<i>\$110.6</i>	<i>\$90.9</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$315.5</i>	
<i>Capital Expenditures</i>																								
T2020 Commuter Rail Project	\$4.1	\$5.0	\$10.1	\$103.7	\$112.2	\$89.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$324.4	
Long-Term Debt Service	0	0	0	\$1.7	\$4.9	\$7.8	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$8.9	\$157.0
<i>Total Capital Expenditures</i>	<i>\$4.1</i>	<i>\$5.0</i>	<i>\$10.1</i>	<i>\$105.4</i>	<i>\$117.1</i>	<i>\$97.0</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$8.9</i>	<i>\$481.4</i>	
Change in Capital Costs	0	0	0	-\$10.5	-\$6.5	-\$6.1	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$8.9	-\$165.8	
Beginning Cash Balance	0	0	0	0	\$3.6	\$11.2	\$19.3	\$21.3	\$22.5	\$23.6	\$24.6	\$26.0	\$26.9	\$28.0	\$30.1	\$33.1	\$36.6	\$41.8	\$48.9	\$58.0	\$69.7	\$62.2		
Change to Cash Balance	0	0	0	\$3.6	\$7.6	\$8.0	\$2.0	\$1.2	\$1.1	\$1.0	\$1.5	\$0.9	\$1.2	\$2.1	\$2.9	\$3.6	\$5.2	\$7.1	\$9.1	\$11.7	-\$7.6	-\$18.8	\$43.4	
Ending Cash Balance	0	0	0	\$3.6	\$11.2	\$19.3	\$21.3	\$22.5	\$23.6	\$24.6	\$26.0	\$26.9	\$28.0	\$30.1	\$33.1	\$36.6	\$41.8	\$48.9	\$58.0	\$69.7	\$62.2	\$43.4		

Note: All figures expressed in millions of year-of-expenditure dollars. Totals may not add due to rounding.

Table 4.5 Cash Flow – Sensitivity Scenario B2

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total		
Operating																									
<i>Operating Revenues</i>																									
FTA Section 5307 Formula Program	0	0	0	0	0	0	0	0	\$2.8	\$3.0	\$3.1	\$3.3	\$3.5	\$3.6	\$3.8	\$4.0	\$4.2	\$4.4	\$4.6	\$4.9	\$5.1	\$5.4	\$55.8		
State Transit Operating Assistance	0	0	0	0	0	0	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$6.7	\$106.6	
RTA Sales Tax Revenue	0	0	0	\$16.5	\$16.9	\$17.3	\$17.7	\$18.1	\$18.5	\$18.9	\$19.3	\$19.7	\$20.1	\$20.6	\$21.0	\$21.5	\$21.9	\$22.3	\$22.8	\$23.2	\$23.6	\$24.0	\$383.8		
T2020 Farebox Revenues	0	0	0	0	0	0	\$1.0	\$1.1	\$1.1	\$1.2	\$1.2	\$1.3	\$1.3	\$1.4	\$1.4	\$1.5	\$1.5	\$1.6	\$1.6	\$1.7	\$1.8	\$1.8	\$22.6		
Short-Term Bond Proceeds	0	0	0	0	0	0	\$2.1	\$1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$3.3		
<i>Total Operating Revenues</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$16.5</i>	<i>\$16.9</i>	<i>\$17.3</i>	<i>\$27.5</i>	<i>\$27.0</i>	<i>\$29.1</i>	<i>\$29.7</i>	<i>\$30.3</i>	<i>\$30.9</i>	<i>\$31.6</i>	<i>\$32.2</i>	<i>\$32.9</i>	<i>\$33.6</i>	<i>\$34.3</i>	<i>\$35.0</i>	<i>\$35.7</i>	<i>\$36.4</i>	<i>\$37.2</i>	<i>\$37.9</i>	<i>\$572.1</i>		
<i>Operating Costs</i>																									
RTA Reserve Fund	0	0	0	0	0	0	\$0.8	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$1.6	
T2020 O&M Expenses	0	0	0	0	0	0	\$16.7	\$17.4	\$18.1	\$18.8	\$19.6	\$20.4	\$21.3	\$22.2	\$23.2	\$24.3	\$25.4	\$26.6	\$27.8	\$29.2	\$30.6	\$32.2	\$373.8		
Debt Service	0	0	0	0	0	0	\$0.1	\$0.7	\$1.0	\$1.0	\$1.0	\$0.4	0	0	0	0	0	0	0	0	0	0	\$4.0		
<i>Total Operating Costs</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$17.7</i>	<i>\$18.1</i>	<i>\$19.1</i>	<i>\$19.8</i>	<i>\$20.6</i>	<i>\$20.8</i>	<i>\$21.3</i>	<i>\$22.3</i>	<i>\$23.3</i>	<i>\$24.3</i>	<i>\$25.4</i>	<i>\$26.6</i>	<i>\$27.9</i>	<i>\$29.3</i>	<i>\$30.7</i>	<i>\$32.3</i>	<i>\$379.5</i>		
Balance from Operations	0	0	0	\$16.5	\$16.9	\$17.3	\$9.8	\$8.9	\$10.0	\$9.9	\$9.7	\$10.1	\$10.2	\$10.0	\$9.7	\$9.3	\$8.9	\$8.4	\$7.8	\$7.2	\$6.5	\$5.6	\$192.7		
Capital																									
<i>Capital Revenues</i>																									
FTA Section 5309 New Starts	0	0	0	\$59.3	\$70.0	\$57.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$186.9	
Federal Pre-FFGA Funding	\$3.3	\$4.0	\$8.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$15.4	
Federal CMAQ Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
State Commuter Rail Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
State PE Contribution	\$0.4	\$0.5	\$0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$1.3	
Local Interim Funding	\$0.4	\$0.5	\$1.7	-\$2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-\$0.2	
Long-Term Bond Proceeds	0	0	0	\$35.7	\$36.9	\$29.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$102.0	
<i>Total Capital Revenues</i>	<i>\$4.1</i>	<i>\$5.0</i>	<i>\$10.1</i>	<i>\$92.2</i>	<i>\$106.9</i>	<i>\$86.9</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$305.2</i>	
<i>Capital Expenditures</i>																									
T2020 Commuter Rail Project	\$4.1	\$5.0	\$10.1	\$103.7	\$112.2	\$89.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$324.4	
Long-Term Debt Service	0	0	0	\$1.6	\$4.5	\$7.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$8.1	\$142.7
<i>Total Capital Expenditures</i>	<i>\$4.1</i>	<i>\$5.0</i>	<i>\$10.1</i>	<i>\$105.3</i>	<i>\$116.7</i>	<i>\$96.3</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$8.1</i>	<i>\$467.1</i>	
Change in Capital Costs	0	0	0	-\$13.1	-\$9.8	-\$9.4	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$8.1	-\$161.9	
Beginning Cash Balance	0	0	0	0	\$3.4	\$10.4	\$18.3	\$20.0	\$20.8	\$22.7	\$24.6	\$26.2	\$28.2	\$30.3	\$32.2	\$33.8	\$35.0	\$35.8	\$36.1	\$35.8	\$34.9	\$33.2			
Change to Cash Balance	0	0	0	\$3.4	\$7.0	\$7.9	\$1.7	\$0.8	\$2.0	\$1.8	\$1.6	\$2.0	\$2.1	\$1.9	\$1.6	\$1.2	\$0.8	\$0.3	-\$0.3	-\$0.9	-\$1.6	-\$2.4	\$30.8		
Ending Cash Balance	0	0	0	\$3.4	\$10.4	\$18.3	\$20.0	\$20.8	\$22.7	\$24.6	\$26.2	\$28.2	\$30.3	\$32.2	\$33.8	\$35.0	\$35.8	\$36.1	\$35.8	\$34.9	\$33.2	\$30.8			

Note: All figures expressed in millions of year-of-expenditure dollars. Totals may not add due to rounding.

Table 4.6 Cash Flow – Sensitivity Scenario C1

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Operating																							
<i>Operating Revenues</i>																							
FTA Section 5307 Formula Program	0	0	0	0	0	0	0	0	\$1.7	\$1.8	\$1.9	\$2.0	\$2.1	\$2.2	\$2.3	\$2.4	\$2.5	\$2.7	\$2.8	\$2.9	\$3.1	\$3.2	\$33.5
State Transit Operating Assistance	0	0	0	0	0	0	\$4.4	\$4.5	\$4.6	\$4.6	\$4.7	\$4.8	\$4.9	\$4.9	\$5.0	\$5.1	\$5.2	\$5.2	\$5.3	\$5.4	\$5.5	\$5.5	\$79.6
RTA Sales Tax Revenue	0	0	0	\$16.5	\$16.9	\$17.3	\$17.7	\$18.1	\$18.5	\$18.9	\$19.3	\$19.7	\$20.1	\$20.6	\$21.0	\$21.5	\$21.9	\$22.3	\$22.8	\$23.2	\$23.6	\$24.0	\$383.8
T2020 Farebox Revenues	0	0	0	0	0	0	\$1.9	\$2.0	\$2.0	\$2.1	\$2.2	\$2.3	\$2.4	\$2.5	\$2.6	\$2.7	\$2.8	\$2.9	\$3.0	\$3.1	\$3.2	\$3.3	\$40.6
Short-Term Bond Proceeds	0	0	0	0	0	0	\$3.0	\$1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$4.8
<i>Total Operating Revenues</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$16.5</i>	<i>\$16.9</i>	<i>\$17.3</i>	<i>\$27.0</i>	<i>\$26.4</i>	<i>\$26.8</i>	<i>\$27.4</i>	<i>\$28.1</i>	<i>\$28.7</i>	<i>\$29.4</i>	<i>\$30.1</i>	<i>\$30.9</i>	<i>\$31.6</i>	<i>\$32.3</i>	<i>\$33.1</i>	<i>\$33.8</i>	<i>\$34.6</i>	<i>\$35.3</i>	<i>\$36.1</i>	<i>\$542.3</i>
<i>Operating Costs</i>																							
RTA Reserve Fund	0	0	0	0	0	0	\$0.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$1.2
T2020 O&M Expenses	0	0	0	0	0	0	\$12.3	\$12.8	\$13.3	\$13.8	\$14.4	\$15.0	\$15.6	\$16.3	\$17.0	\$17.8	\$18.6	\$19.5	\$20.4	\$21.4	\$22.5	\$23.6	\$274.1
Debt Service	0	0	0	0	0	0	\$0.2	\$1.0	\$1.4	\$1.4	\$1.4	\$0.5	0	0	0	0	0	0	0	0	0	0	\$5.9
<i>Total Operating Costs</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$13.1</i>	<i>\$13.7</i>	<i>\$14.7</i>	<i>\$15.2</i>	<i>\$15.8</i>	<i>\$15.5</i>	<i>\$15.7</i>	<i>\$16.3</i>	<i>\$17.1</i>	<i>\$17.8</i>	<i>\$18.7</i>	<i>\$19.5</i>	<i>\$20.5</i>	<i>\$21.5</i>	<i>\$22.5</i>	<i>\$23.7</i>	<i>\$281.2</i>
Balance from Operations	0	0	0	\$16.5	\$16.9	\$17.3	\$13.9	\$12.6	\$12.1	\$12.2	\$12.3	\$13.2	\$13.8	\$13.8	\$13.8	\$13.8	\$13.7	\$13.6	\$13.4	\$13.1	\$12.8	\$12.5	\$261.1
Capital																							
<i>Capital Revenues</i>																							
FTA Section 5309 New Starts	0	0	0	\$58.0	\$70.8	\$58.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$186.9
Federal Pre-FFGA Funding	\$3.6	\$4.4	\$8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$16.9
Federal CMAQ Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Commuter Rail Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State PE Contribution	\$0.5	\$0.6	\$0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$1.3
Local Interim Funding	\$0.5	\$0.6	\$2.0	-\$3.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-\$0.3
Long-Term Bond Proceeds	0	0	0	\$49.6	\$51.6	\$42.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$144.0
<i>Total Capital Revenues</i>	<i>\$4.5</i>	<i>\$5.5</i>	<i>\$11.1</i>	<i>\$104.3</i>	<i>\$122.3</i>	<i>\$101.0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>\$348.8</i>
<i>Capital Expenditures</i>																							
T2020 Commuter Rail Project	\$4.5	\$5.5	\$11.1	\$114.0	\$123.5	\$98.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$356.8
Long-Term Debt Service	0	0	0	\$2.2	\$6.3	\$10.0	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$11.4	\$201.4
<i>Total Capital Expenditures</i>	<i>\$4.5</i>	<i>\$5.5</i>	<i>\$11.1</i>	<i>\$116.3</i>	<i>\$129.7</i>	<i>\$108.1</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$11.4</i>	<i>\$558.2</i>
Change in Capital Costs	0	0	0	-\$11.9	-\$7.4	-\$7.2	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$11.4	-\$209.5
Beginning Cash Balance	0	0	0	0	\$4.6	\$14.0	\$24.1	\$26.6	\$27.8	\$28.5	\$29.2	\$30.1	\$31.9	\$34.2	\$36.6	\$39.0	\$41.3	\$43.6	\$45.7	\$47.6	\$49.3	\$50.7	
Change to Cash Balance	0	0	0	\$4.6	\$9.5	\$10.1	\$2.5	\$1.2	\$0.7	\$0.8	\$0.9	\$1.8	\$2.3	\$2.4	\$2.4	\$2.3	\$2.3	\$2.1	\$1.9	\$1.7	\$1.4	\$1.0	\$51.7
Ending Cash Balance	0	0	0	\$4.6	\$14.0	\$24.1	\$26.6	\$27.8	\$28.5	\$29.2	\$30.1	\$31.9	\$34.2	\$36.6	\$39.0	\$41.3	\$43.6	\$45.7	\$47.6	\$49.3	\$50.7	\$51.7	

Note: All figures expressed in millions of year-of-expenditure dollars. Totals may not add due to rounding.

5.0 Conclusions

This Financial Plan shows that the financial capacity exists to construct and operate the Transport 2020 commuter rail project. The plan projects positive cash balances throughout the six-year construction period and the 20-year operations period. The positive cash balances remain under various pessimistic scenarios, including higher than expected capital and operating costs, lower than expected ridership, and slower growth in sales tax revenues.

8.0 Other Factors

8.0 Other Factors

This section describes other factors that are expected to contribute to the success of the Transport 2020 project. These factors focus on both the physical and transportation characteristics of the corridor and region, that are anticipated to further enhance confidence in the ridership projections and user benefits generated by the project:

- Economic development impacts;
- Geographic constraints; and
- Demonstrated transit usage in the corridor.

■ 8.1 Economic Development Impacts

As part of the planning for the Madison Transport 2020 Project, a market assessment was conducted in 2006 to determine the projected residential, office, and retail development potential between 2005 and 2020 in station opportunity areas.¹ The assessment was based on a review of current development trends, forecast population and employment growth in the corridor, land use plans and development opportunity sites, and interviews with local officials, developers, property owners, and real estate experts.

The total estimated potential through 2020 in the subareas served by the locally preferred alternative (LPA) includes just over 3,000 dwelling units, 2.2 million square feet of office space, and 1.1 million square feet of retail space. This translates into a potential of approximately 6,000 new residents and 13,400 new employees in proposed station areas. In terms of transportation impacts, the number of new daily trips generated by this development is estimated at 154,000. These estimates do not include classroom space or special purpose buildings at the University of Wisconsin campus.

Major focus areas for development in the corridor include:

- The Hill Farms area, which is seeing the redevelopment of an shopping area and state office buildings;
- Significant institutional expansion on and near the University of Wisconsin campus;

¹ Valerie S. Kretchmer Associates, Inc. *Transit Supportive Land Use Report*. Transport 2020 Environmental Impact Statement and New Starts Application - Appendix A, November 2006.

- Infill sites in the downtown area, which are seeing mixed-use residential, commercial, and retail development; and
- Underutilized industrial and warehousing sites in the east Isthmus area, such as Union Corners and along the Washington Street corridor.

While some of this development is likely to occur with or without the Transport 2020 Project, the transit project also is likely to further stimulate development in station areas. Transit-supportive policies have been adopted by the Cities of Madison, Middleton, and Shorewood Hills which will help channel compact, walkable development into the station areas. The rate at which this development occurs will be influenced by overall regional growth trends, as well as the growth in the market specifically for transit-oriented development. The Madison region is projected to continue experiencing growth - 35 percent between 2000 and 2030 - and transit-supportive policies enacted in conjunction with the Madison Transport 2020 project will help accommodate this growth in a more sustainable manner. In fact, recent population estimates from the U.S. Census shows that Dane County has the largest population growth in the state between 2000 and 2006; over 50 percent more than the second highest county in Wisconsin (Waukesha County).

Furthermore, the Madison area real estate market is exhibiting a number of characteristics and trends that could positively influence the demand for transit-oriented development. Some of these noteworthy trends include:

- Strong development activity, as measured in terms of building permits issued and increases in retail space;
- A relatively high share of multi-family housing (62 percent of building permits issued by the City of Madison and 47 percent issued by Dane County between 2000 and 2006);
- Housing values that are relatively high for the metro area's size;
- Concentration of a significant proportion of the region's office space (21.5 percent), including the vast majority of Class A space, in downtown Madison;
- Relatively low commercial vacancy rates - 8.7 percent in downtown and 9.2 percent in the west submarket in 2005;
- The University of Wisconsin (UW) as a major activity generator with over 41,000 undergraduate and graduate students, and 18,000 faculty members, academic staff, researchers, and UW Hospital employees; and
- Strong interest in a return to a more traditional "urban" living environment, as evidenced by recent mixed-use infill projects as well as new traditional neighborhood developments and community centers in suburban locations.

■ 8.2 Geographic Constraints

The study areas for the Transport 2020 project has a unique land use pattern resulting from 19th century decisions that sited Madison on a narrow isthmus between two lakes with the State Capitol at the center. The orientation of the isthmus dictated urban growth in a concentrated land use pattern on an east/west axis. A mile west of the State Capitol, the state established the University of Wisconsin-Madison. Growth in state government and the university, plus growth in other regional functions occurred in the context of the existing concentrated land use on this east/west axis. While the 19th century Madison isthmus could easily accommodate such uses, the 21st century continues to present challenges to this historic and very efficient regional land use pattern.

Specifically, the unique geography of the isthmus does not allow for easily increasing roadway capacity without major impacts to existing neighborhoods. Providing convenient transit is particularly important in reducing congestion and providing a realistic option to driving in these areas.

This was one of the key issues in the Madison Comprehensive Plan, and is supported by levels of congestion throughout the corridor. As Figures 8.1 and 8.2 show, the Madison Area Transportation Planning Board (the local MPO), the east-west arterial streets through the Isthmus are currently congested and will continue to be congested in the future, even with transportation projects proposed in the area's long range transportation plan.² "Congested" levels indicated on both figures represent Level of Service (LOS) D, while "Very Congested" levels represent LOS E, or worse.

LOS D describes road conditions where speeds are somewhat reduced and vehicles are closely spaced. Under LOS E, traffic becomes more unstable and speeds rarely reach the posted limit. LOS F describes forced traffic flow with frequent stops.

While the Baseline Alternative would use exclusive lanes on many portions of arterial streets, buses would still need to operate in existing traffic lanes on University Avenue west of Campus Drive and on E. Washington Avenue east of Fourth Street. Both of these streets currently operate under congested or very congestion conditions, and will continue to do so in the future. As Figure 8.2 shows, even with planned transportation improvements, local roads through the Isthmus will continue to be congested.

² *Regional Transportation Plan, 2030*. Madison Area Metropolitan Planning Organization , page 34.
<http://www.madisonareampo.org/Plan%20Elements/Streetnomaps.pdf>

Figure 8.1

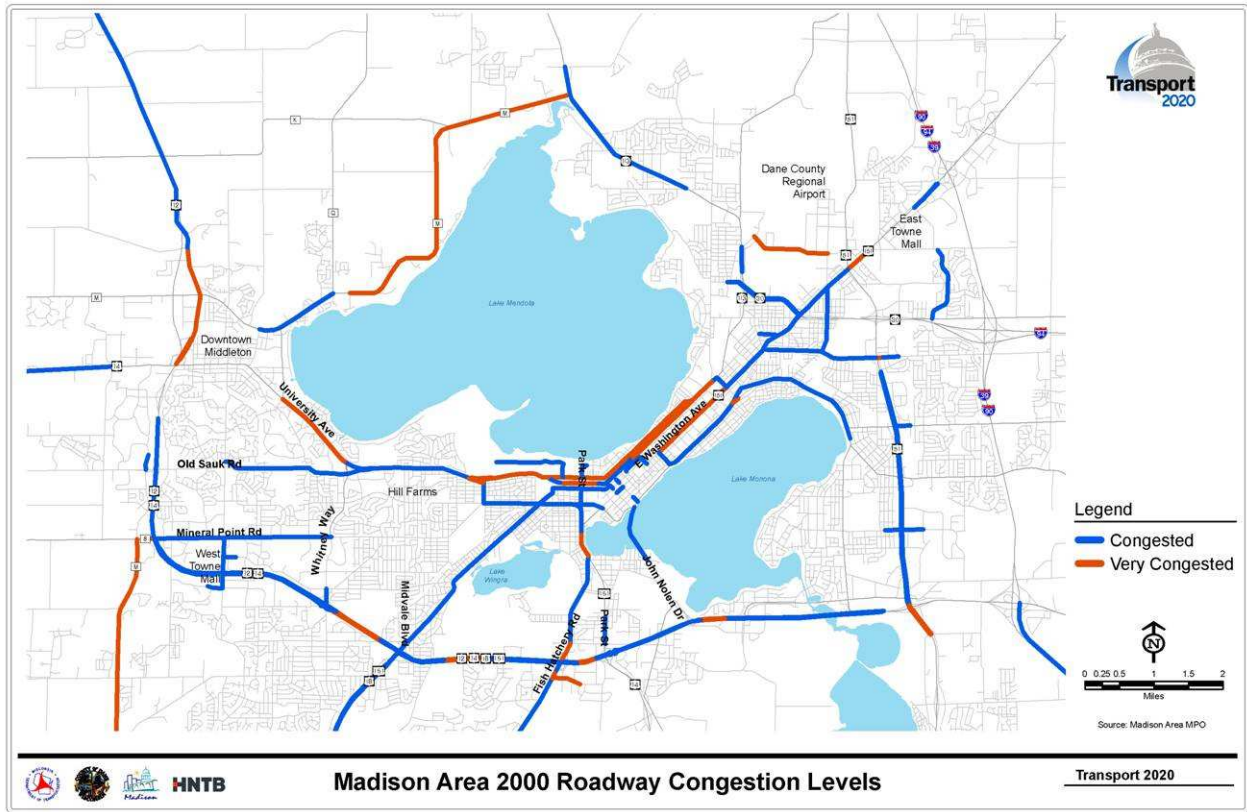
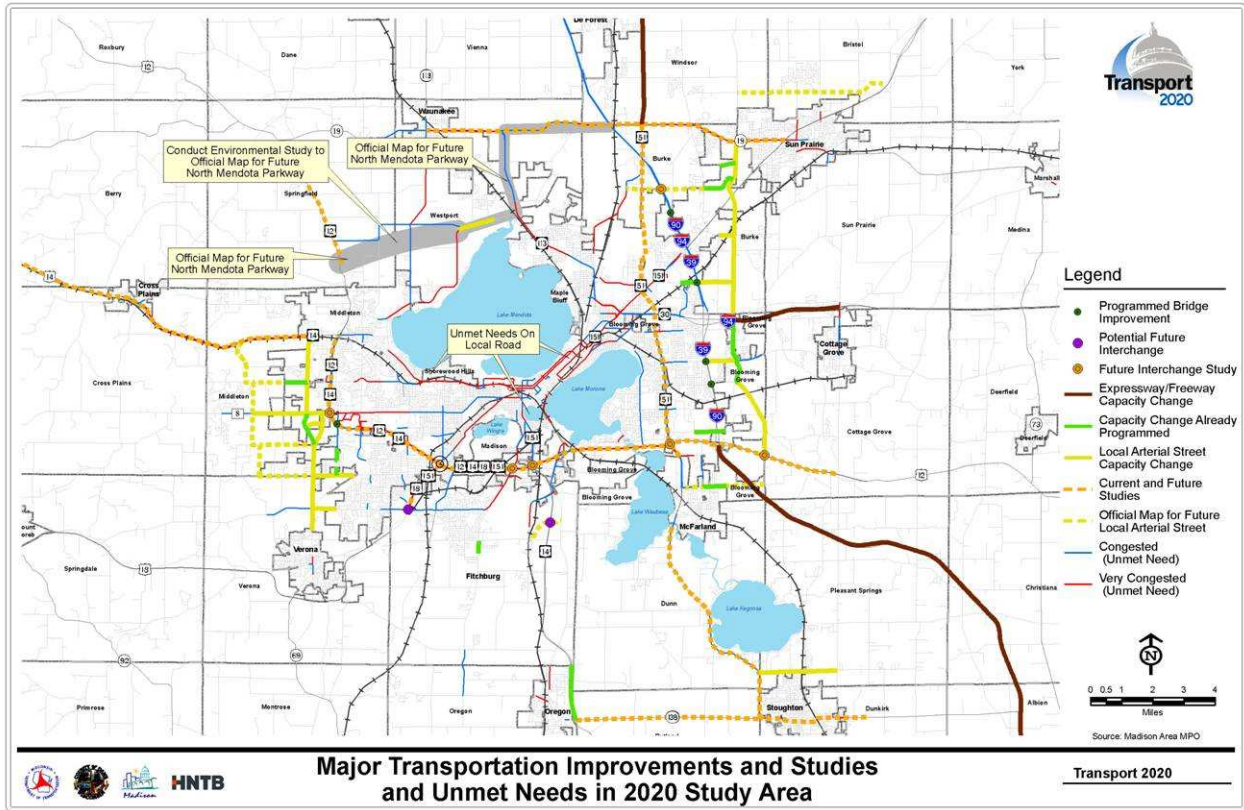


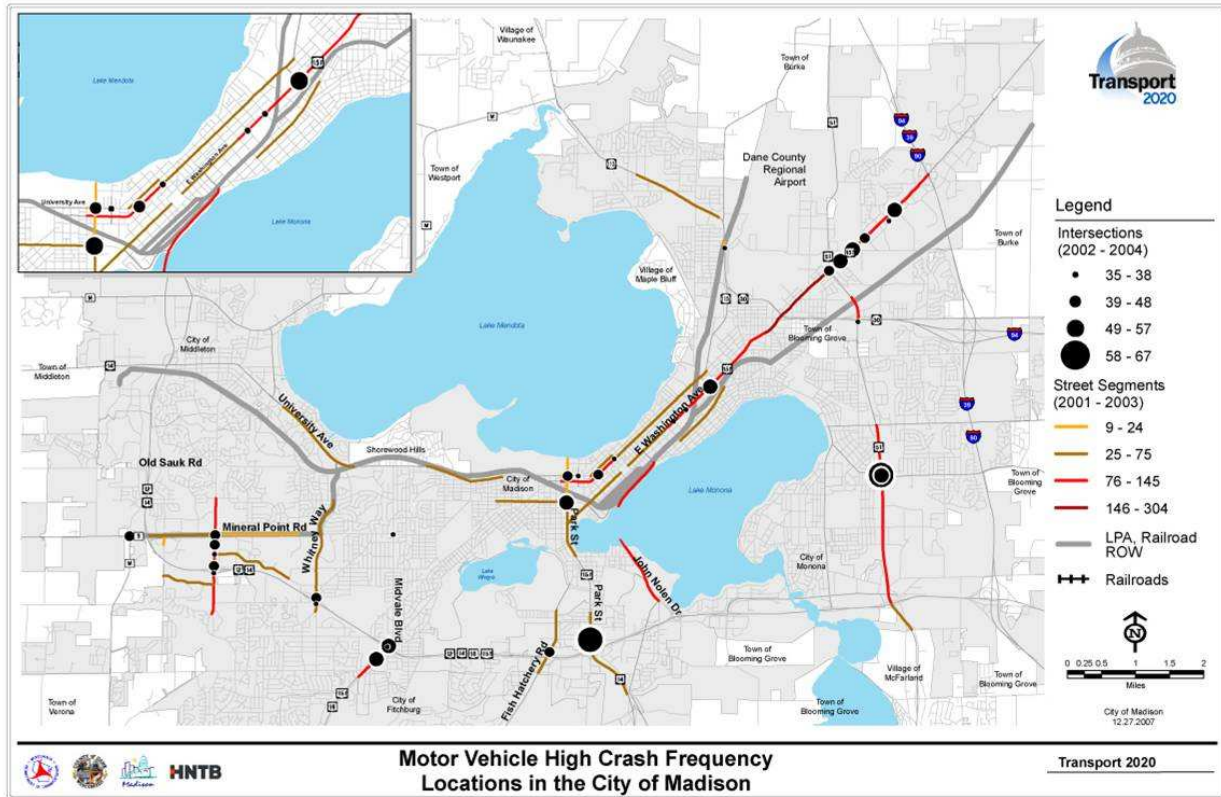
Figure 8.2



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With the existing congested conditions on arterial streets through the Isthmus come high crash frequencies. The most recent crash report from the City of Madison shows that 10 of the 25 street segments with the highest crash frequencies are located on East Washington Avenue, East Johnson Street and University Avenue.³ Figure 8.3, illustrates arterial streets on which the Baseline Alternative travels have some of the highest crash frequencies in the area.

Figure 8.3



The densely developed Isthmus also creates unique physical constraints during periods of heavy snowfall. As evidenced by recent snowstorm events, there is little physical space to plow snow on arterial streets during successive and heavy snowfalls. Bus and parking lanes become severely constricted. Photos below (Figures 8.4 and 8.5) document recent snowfall events and constrictions placed on outside lanes, where exclusive lanes would be placed for the Baseline Alternative.

³ 2003 Traffic Crash Report. City of Madison, page 3.

<http://www.cityofmadison.com/trafficEngineering/documents/CrashReport2003/crashc03.pdf>

Figure 8.4



Figure 8.5



Finally, Baseline Alternative requires removing approximately 436 on-street parking spaces through the Isthmus, which would not be replaced. This reduction is significant as parking is already in limited supply where there is little to no available low cost land in this densely populated section of the city.

Achieving the vision for the Madison region, which includes vitality, livability, and economic viability, cannot be achieved by simply adding more bus service in the corridor. Rather, by shifting significant trip making to the currently underutilized rail corridor that skirts the downtown area, sustainable growth plans can be achieved while reducing impacts to the existing roadway network and to neighborhoods.

■ 8.3 Demonstrated Transit Usage

Madison currently operates a well-utilized bus system that achieves significant performance as compared to its peer systems across the country. Among 10 other transit systems serving a similar size region in 2006 as shown in Table 8.1 below, Madison Metro Transit delivered the largest number of transit trips, at over 12 million, and significantly outperformed its peers in terms of both trips and passenger-miles per capita.

Table 8.1 Metro Transit Peer System Comparisons

Peer Transit System	UZA Population	Annual Linked Trips (millions)	Passenger- Miles Per Capita	Trips Per Capita
Metro Transit, Madison, WI	329,533	12.3	127.5	37.3
CATA, Little Rock, AZ	360,331	2.4	24.6	6.7
CARTA, Chattanooga, TN-GA	343,509	3.1	34.4	9.0
SCAT, Oxnard, CA	337,591	3.4	20.9	10.2
LeeTran, Cape Coral, FL	329,757	3.1	53.8	9.3
Spokane Transit, Spokane, WA	334,858	8.3	122.2	24.7
RRTA, Lancaster, PA	323,554	2.3	36.5	7.3
WTS, Mobile, AL	317,605	0.9	18.7	3.0
San Joaquin RTD, Stockton, CA	313,392	4.0	111.2	12.8
RTC, Reno, NV	303,689	9.0	102.4	29.5
CATA, Lansing, MI	300,032	10.0	100/3	33.4

Further Metro Transit's ridership in 2006 was the highest in 20 years, with service available within one-quarter mile to 97 percent of its service area population and 91 percent of its housing units. These statistics suggest a positive perception by Madison region residents of transit, and a predisposition to utilize at disproportionately high levels transit services provided.

9.0 Before and After Study Plan

9.0 Before and After Study Plan

A Before and After Study Plan has been prepared, describing how the City of Madison and the RTA will collect and report information about the Transport 2020 project. As described in the plan that follows, information will be assembled on:

1. Project scope;
2. Transit service levels;
3. Capital costs;
4. Operating and maintenance costs; and
5. Ridership patterns and revenues.

This information will be provided throughout project planning, development, and design, and continues until two years after revenue operation begins. The Before and After Study Plan will be updated as the project moves through engineering and design, and finalized during the final design phase.

Transport 2020

Before and After Data Preservation and Collection Plan

Introduction

The Federal Transit Administration's (FTA) December 2000 Final Rule on Major Capital Investment Projects requires that New Start project proponents collect data on key project characteristics generated 1) during planning and project development, 2) immediately before implementation of the project, and 3) two years after the project opens for service. SAFETEA-LU amended Section 5309(g)(2)(c) to codify this regulatory requirement. Project sponsors, as a condition of receiving a Full Funding Grant Agreement (FFGA), must assemble information on:

1. Project scope;
2. Transit service levels;
3. Capital costs;
4. Operating and maintenance (O&M) costs; and
5. Ridership patterns and revenues.

As directed by SAFETEA-LU, this information is now provided throughout project planning, development, and design, and continues until two years after revenue operation begins.

SAFETEA-LU additionally requires FTA to summarize the information provided by project sponsors on these key project characteristics in a Report to Congress on the results of any before and after studies completed during that year.

This memorandum provides the proposed Before and After Data Preservation and Collection Plan for the Transport 2020 project. This plan will be finalized during the final design phase of project development.

Project Description

The proposed Transport 2020 project consists of diesel multiple unit (DMU) or hybrid technology commuter rail vehicles operating in the existing rail corridor running from the Highway 12/14 interchange in Middleton, through the Isthmus, to Reiner Road in Sun Prairie. This alternative is designed to serve many of metropolitan Madison's major employment, entertainment and shopping destinations, and complements the existing bus system. The project includes 17 stations along a 16-mile, two-track alignment from Stonefield Road on the west to Route 30 on the east. In order to provide cost effective and frequent service in Madison's core, trains will operate on two overlapping routes, identified as the east branch and the west branch. The east

branch operates from Reiner Road near Sun Prairie, through downtown Madison, to Whitney Way/Hill Farms; the west branch runs from Middleton to Fair Oaks east of the Isthmus.

The proposed service will be operated with DMUs or hybrid technology commuter rail vehicles sharing track with Wisconsin and Southern freight trains (temporal separation of freight and passenger rail service is assumed). The tracks that are currently in place will be rehabilitated to accommodate the passenger service. Eight train sets are required for the weekday peak service. Assuming single-car trains, 10 vehicles inclusive of two spares would provide adequate coverage for the service and any maintenance that would be required during operating hours, from 6:00 a.m. to 11:30 p.m. on weekdays, and from 8:00 a.m. to 10:00 p.m. on Saturdays. The service design would provide 70 daily trips on weekdays and 40 trips on Saturdays on both the Western and Eastern Branches. Initially, Sunday service and other special event service will be offered as demand warrants.

The project is estimated to cost \$337.1 million in year of expenditure dollars.

Responsibilities

Internal

The project sponsor for the Transport 2020 project is the City of Madison, which is one of the entities with Dane County and the Wisconsin Department of Transportation (WisDOT) that comprise the Intergovernmental Partnership (IGP) established to manage project planning and development activities. The City has provided the Program Manager leading the planning/alternatives analysis/environmental phases of the study. The design phase for the Transport 2020 project will be the responsibility of this Program Manager with specialized engineering technical support to be provided by the WisDOT Design Project Manager. The Program Manager reports directly to the IGP. The Before and After Study also will be the responsibility of the Program Manager, who has extensive history with the Transport 2020 planning effort and as noted previously will direct the next stage of project development.

Primary IGP responsibilities related to the project include the following:

- Manage the planning, scope, design and engineering, construction administration, and construction inspection;
- Provide oversight for project technical issues;
- Develop recommendations for resolution of unique problems arising out of unforeseen conditions brought to light during project planning, development, and implementation; and
- Serve as liaison to the Project Management Oversight Contractor (PMOC) assigned by the FTA, and provide responses to the PMOC requests for information.

Transport 2020 service will ultimately be operated under the auspices of a Regional Transit Authority (RTA). As plans are advanced for formation of the RTA, this internal responsibilities summary will be updated.

Madison Area Transportation Planning Board

The Madison Area Transportation Planning Board is the federally designated Metropolitan Planning Organization (MPO) for the Madison Urban Area. As the MPO, it is the policy body responsible for cooperative, continuous, and comprehensive regional transportation planning and decision making for the Madison Metropolitan Planning Area.

Federal Transit Administration

The FTA will review and approve the Before and After Study work program. The FTA also will review any before and after data developed during the project planning and development phase, as well as draft and final reports.

PMO Contractors

The PMO contractors designated by the FTA will assist in reviewing project data.

Scope of Work/Data Collection and Preservation Plan

Task 1 - Organization

- Assembly and review of project planning documents to date;
- Meeting of project participants;
- Preparation of draft work plan; and
- Preparation of final work plan.

Task 2 - Documentation of Forecasts During Project Development

Ridership forecasts for Transport 2020 and project capital and operating and maintenance cost estimates will be reported to the FTA at each decision stage throughout project development - initiation of preliminary engineering, final design, full funding grant agreement - or in any years in which there may be a significant change to the project. More detail about reporting of specific forecasts is provided below.

A. Project Scope and Capital Costs

1) Alternatives Analysis

- a) Collect project planning documents - All relevant documents related to the project scope and estimation of capital costs during the alternatives analysis process will be identified and assembled. These documents currently are maintained and organized in a project network drive, and include technical memoranda, drawings, meeting minutes, and other relevant materials.

- b) Document project scope - A detailed project description will be developed documenting the physical scope of the project. Major items, such as the new track, stations, and yards, will be recorded. Other major cost items, such as signals, rolling stock and parking, will be described and documented. The expected timing and duration of construction will be documented. Costs are assembled in the Standard Cost Categories (SCC) worksheet developed for this PE request.

2) Preliminary Engineering

- a) Collect project planning documents - All relevant documents related to the project scope and estimation of capital costs during the PE phase will be identified and assembled in a project document management system. This will include not only the PE reports but all supporting technical memoranda, drawings, and similar materials, and other relevant materials (e.g., electronic spreadsheets used in cost estimation).
- b) Document project scope - A detailed project description will be developed documenting the physical scope of the project as planned in PE. Major items such as new track, stations, and yards will be recorded. Other major cost items, such as signals, rolling stock, and parking, will be described and documented. The expected timing and duration of construction will be documented. Costs are assembled in the SCC worksheet developed for this PE request and subsequent New Starts submittals.

3) Full Funding Grant Agreement

- a) Document project as specified in FFGA - A detailed project description will be developed documenting the physical scope of the project as specified for the FFGA. Major items such as new track, stations, and yards will be recorded. Other major cost items, such as signals, rolling stock, and parking, will be described and documented. The expected timing and duration of construction will be documented. Costs are assembled in the SCC worksheet developed for this PE request and subsequent New Starts submittals
- b) Document any changes in scope, capital costs, or schedule from PE.

B. Operating and Maintenance Costs

1) Alternatives Analysis

- a) Operating plan. Documentation will include the following measures for Transport 2020:
 - i) Routes
 - ii) Headways (peak, off-peak, night, weekend)
 - iii) Run time by route

- iv) Vehicle miles traveled
 - v) Revenue hours
 - b) Systemwide operating statistics (“system” is anticipated to include service operated under the auspices of the proposed RTA, which will include Transport 2020 service and potentially bus services now operated by Madison Metro):
 - i) Vehicle hours
 - ii) Vehicle miles
 - iii) Peak fleet
 - iv) Number of transfer centers
 - c) Operating and maintenance costs
 - i) Transport 2020
 - ii) Systemwide
- 2) Preliminary Engineering
- a) Operating plan. Documentation will include the following measures for Transport 2020, and any changes from AA will be explained:
 - i) Routes
 - ii) Headways (peak, off-peak, night, weekend)
 - iii) Run time by route
 - iv) Vehicle miles traveled
 - v) Revenue hours
 - b) Systemwide operating statistics:
 - i) Vehicle hours
 - ii) Vehicle miles
 - iii) Peak fleet
 - iv) Number of transfer centers
 - c) Operating and maintenance costs
 - i) Transport 2020

- ii) Systemwide
- 3) Full Funding Grant Agreement
 - a) Operating plan. Documentation will include the following measures for Transport 2020 service, with any changes from PE explained:
 - i) Routes
 - ii) Headways (peak, off-peak, night, weekend)
 - iii) Run time by route
 - iv) Vehicle miles traveled
 - v) Revenue hours
 - b) Systemwide operating statistics:
 - i) Vehicle hours
 - ii) Vehicle miles
 - iii) Peak fleet
 - iv) Number of transfer centers
 - c) Operating and maintenance costs
 - i) Transport 2020
 - ii) Systemwide

C. Ridership

- 1) Alternatives Analysis
 - a) Document Methods - The methods and procedures used in the Transport 2020 alternatives analysis to develop forecasts of project ridership will be documented. This includes not just the description of the procedures or the functional relationships, but also all of the underlying data that were used in developing the forecasts.
 - i) Obtain and document geographic analysis system (traffic analysis zones)
 - ii) Obtain and document transportation networks
 - iii) Obtain and document travel forecasting functional relationships

- iv) Obtain and document demographic and economic forecast data (e.g., population, employment, parking costs, fares, etc.)
- b) Document Results
 - i) Document trip tables by mode and purpose
 - ii) Document travel assignments
- 2) Preliminary Engineering
 - a) Document Methods - The methods and procedures used in the PE phase of the project to develop forecasts of project ridership will be documented. This includes not just the description of the procedures or the functional relationships but also of the underlying data that were used in developing the forecasts.
 - i) Obtain and document geographic analysis system (traffic analysis zones)
 - ii) Obtain and document transportation networks
 - iii) Obtain and document travel forecasting functional relationships
 - iv) Obtain and document demographic and economic forecast data (e.g., population, employment, parking costs, fares, etc.)
 - v) Document changes from AA phase
 - vi) Changes in the projected system ridership as reported in the AA will be documented. This will include not only changes in total ridership but also changes in ridership by route, by station, by market segment, or by other meaningful grouping. Changes in the design of the project, in forecasts of population, economic activity, transportation systems, or in other factors that would have affected the ridership forecasts will be identified and documented.
 - b) Document Results
 - i) Document trip tables by mode and purpose
 - ii) Document travel assignments, including boardings and mode of access by station
 - c) Document Changes From the AA Phase

Task 3 - Documentation of Conditions Before Project Implementation

A. Project Scope

- 1) Document any refinements from FFGA

- 2) Document the timing and duration of construction (from the FFGA)

B. Transit Service Levels

- 1) Area covered - The service area for which data will be gathered will be described.
- 2) Measures to be documented are those shown in Task 2, B.
- 3) Data sources - RTA, Madison Metro.
- 4) How reported - The sources of data on transit operations will be the same as those used for NTD reporting.

C. Capital Costs

- 1) Document costs from construction documents, using FTA activity line items (ALI) codes, noting and explaining any changes from the FFGA.

D. Operating and Maintenance Costs

- 1) Document revised operating and maintenance cost estimates, noting and explaining any changes from the FFGA.

E. Ridership and Revenue

- 1) A plan for conducting surveys pre-implementation of the Transport 2020 project will be finalized prior to final design.

F. Other Factors Affecting Costs and/or Ridership

- 1) Construction cost index (CCI) values - The Engineering News Record CCI for the region will be researched and recorded for the cost years used in estimation of project costs.
- 2) Consumer Price Index (CPI) - The CPI for the region will be documented for each year in which O&M cost estimates were prepared and will be monitored and recorded during the construction period.
- 3) Cost of gasoline - The average price of gasoline in the Chicago region will be obtained from the local AAA office. This information will be documented and compared against operating cost per mile values used in the CMAP travel forecasting model.
- 4) Parking costs - Data on downtown parking costs will be obtained from the City of Madison. These costs will be documented and compared against parking costs during the planning and design phases of the project.
- 5) Planned development - Updated information on planned development will be obtained from the Cities of Madison and Middleton and the University of Wisconsin, as well as other smaller municipalities served by Transport 2020.

- 6) Other operating variables – These may include fuel, motive power, and security costs; impacts related to weather and highway construction; labor wage rates and benefits; and public financing assumptions.

Task 4: Documentation of Conditions After Project Opening

Data will be collected consistent with NTD reporting practices during the first full fiscal year after project opening, anticipated in 2014.

A. Physical Scope (as built)

- 1) A detailed project description will be developed documenting the physical scope of the project as actually constructed. Major items such as new track, stations, and yards will be recorded. Other major cost items, such as signals, rolling stock, and parking, will be described and documented. Any changes from the AA phase and/or FFGA will be documented and explained. Finally, the actual length of the construction period will be documented.

B. Transit Service Levels (as operated)

- 1) Area covered – The service area for which data will be gathered will be described.
- 2) Measures to be documented are those shown in Task 2, B.
- 3) Data sources – As operated from RTA and Madison Metro.
- 4) How reported – The sources of data on transit operations will be the same as those used for NTD reporting.

C. Capital Costs

- 1) Sources of information – Project expenditures will be reported and summarized using FTA ALI codes. These reports will be available monthly during the project construction period. While there may be some work continuing and some claims unresolved on opening day, the vast majority of capital costs should have been incurred and claims resolved by the end of the first full year of operation. Project records and PMO reports will provide needed capital cost information.
- 2) Adjustments
 - a) For changes in physical scope – Differences between the project as built and the project as planned and described in the FFGA will be documented. Estimates of the impacts of these changes on actual construction as compared to estimated costs will be prepared.
 - b) As built costs will be expressed in year of expenditure dollars and compared to anticipated expenditures as detailed in the FFGA. All changes will be noted and explained.

D. Operating and Maintenance Costs

- 1) Information sources – RTA
- 2) As operated costs will be reported in year of expenditure dollars, consistent with an approach developed for Transport 2020 , noting and explaining any changes from the FFGA.

E. Ridership

- 1) A methodology for collecting ridership data to evaluate ridership impacts will be proposed during final design.

Task 5: Proposed Analyses

A. Project Scope

- 1) Planned versus As Built
 - a) Analyze and explain changes in project scope from AA through FFGA.
 - b) Analyze and explain changes in project scope from FFGA to After Implementation, as described in Task 4.
 - c) Analyze and explain changes in project scope from Before Implementation (Task 3) to After Implementation (Task 4)

B. Transit Service Levels

- 1) Planned versus After Implementation
 - a) Maps will be prepared illustrating the service plan in the project corridor as envisioned in the AA phase of the study and as actually operated.
 - b) Charts will be prepared comparing the service measures as documented in Tasks 2 and 4.
 - c) Explanation of any changes will be provided.
- 2) Before versus After Implementation
 - a) Maps will be prepared illustrating the service plan in the project corridor as envisioned in the AA phase of the study and as actually operated.
 - b) Charts will be prepared comparing the service measures as documented in Tasks 3 and 4.
 - c) Explanation of any changes will be provided

C. Capital Costs

1) Estimated versus After Implementation

- a) A chart will be prepared that compares costs as documented in Task 2 (AA, PE, and FFGA) with Task 4, after implementation costs.
- b) Analysis of projected versus achieved costs will be conducted in year of expenditure dollars. The CCI and CPI for the region will be analyzed in relation to actual costs. The analysis of capital costs will seek to identify not only the differences between costs as estimated and as achieved, but also the project components that contributed to these differences. This will include assessment of differences between estimated and achieved costs by component (e.g., track work, stations, right-of-way acquisition, railcars, design, environmental mitigation, etc.) with special attention given to any changes in project scope. Other documented changes that may have had a significant impact on achieved project costs but which cannot be specifically identified by a cost category will be discussed.

2) Before and After Implementation

- a) A chart will be prepared that compares costs as documented in Task 3 with final costs as documented in Task 4.
- b) Any changes from Task 3 to Task 4 will be analyzed and explained.

D. Operating and Maintenance Costs

1) Estimated versus After Implementation

- a) A chart will be prepared that compares costs as documented in Task 2 (AA, PE, and FFGA) with Task 4, after implementation costs.
- b) Analysis of any changes from the FFGA to after implementation costs will be conducted and documented. The analysis will focus on differences due to changes in the number of units (e.g., vehicle hours of service, route lengths, etc.) and changes in the cost per unit. To the extent possible, the analysis will address costs by component including vehicle operations, maintenance, etc. Changes in the CPI for the region will be analyzed in relation to actual costs.

2) Before and After Implementation

- a) A chart will be prepared that compares costs as documented in Task 3 with final costs as documented in Task 4.
- b) Any changes from Task 3 to Task 4 will be analyzed and explained.

E. Ridership

1) Ridership Estimates versus After Implementation

- a) A chart will be developed that shows the changes in ridership between the AA phase (Task 2) and after implementation (Task 4). This will include not only changes in total system ridership, but also changes by route, station or station group, market segment, and other meaningful measures.
 - b) An analysis will explain how changes in the design of the project, forecasts of population, economic activity, transportation systems, or other factors affected the ridership forecasts and actual outcomes.
- 2) Before versus After Implementation
- a) A chart will be prepared to show changes in ridership projections and ridership characteristics as documented in Tasks 3 and 4.
 - b) An analysis will explain the impacts the project had on overall ridership and ridership characteristics for the Transport 2020 corridor and system as a whole (i.e., services operating under the auspices of the RTA).

Task 6: Findings and Recommendations

- 1) Summarize Findings - A summary will be prepared highlighting the major findings of the analysis. The relationship between forecast and achieved values of capital cost, operating cost, and ridership will be documented. Major factors influencing the differences will be presented.
- 2) Summarize Recommendations - Based on the comparisons of forecast and achieved values, recommendations will be developed for improving the methods for developing forecasts, for presenting forecasts, or for other actions that would foster better use of data in making transit investment decisions.
- 3) Prepare Draft Report - The Before and After draft report and the associated findings and recommendations will be prepared and submitted to the FTA.
- 4) Discuss Draft Report - The Before and After draft report will be reviewed with the FTA.
- 5) Revise Report - Based on discussions with the FTA, the draft report will be revised.
- 6) Prepare Final Report - The final version of the Before and After Report will be prepared and submitted to the FTA.

10.0 Project Management Plan

10.0 Project Management Plan

A Project Management Plan (PMP) has been prepared, demonstrating the organizational structure and technical capacity of the Intergovernmental Partnership comprised of the City of Madison with Dane County and the Wisconsin Department of Transportation to undertake the preliminary engineering phase of Transport 2020 project development. This PMP, which follows, describes how FTA requirements for major transit capital project development will be met, and provides a foundation for all planning, design, construction, and implementation steps of the Transport 2020 project. The PMP is designed as a “living document” and will be updated as the project progresses. A revision log will be maintained to document changes over time to the plan.

Transport 2020

Environmental Impact Statement
and New Starts Application

Project Management Plan

DRAFT

June 2008



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1. INTRODUCTION

Transport 2020 is a study of transportation improvement alternatives for the Dane County / Greater Madison Metropolitan Area. Dane County has experienced population growth in recent years, estimated at 16.7 percent since 1990 by the U.S. Census Bureau. In addition, very recent population data substantiate Dane County's rapid growth. According to an August 2007 Wisconsin Department of Administration report, Dane County has added more new residents since the 2000 U.S. Census than any other Wisconsin County. In fact, Dane County has added twice as many residents as Waukesha County, the county with the second most new residents added since 2000. This growth, combined with other factors, puts increased pressure on the region's transportation network. Travel corridors throughout the region are experiencing transportation challenges. In the heart of the greater Madison metropolitan area is Madison's Isthmus, a corridor that has experienced increasing traffic congestion.

On behalf of an intergovernmental partnership of the City of Madison, Dane County, and the Wisconsin Department of Transportation, the Transport 2020 Implementation Task Force has completed an Alternatives Analysis (AA) in the fall of 2007, and expects to produce a Draft Environmental Impact Statement (DEIS) in 2009. The Transport 2020 Implementation Task Force is made up of City of Madison, Dane County, State of Wisconsin, University of Wisconsin - Madison, and community representatives. The City of Madison, Dane County and the Wisconsin Department of Transportation are jointly funding \$2.5 million for this planning stage of Transport 2020. The products of this study will be used to support an application to the Federal Transit Administration (FTA) for funding of Preliminary Engineering (PE) under the FTA's New Starts Program.

This chapter describes the general intent of the Project Management Plan (PMP), the proposed schedule, and the current status of the project development to date. Information on project schedule, financing, and legal / statutory authority is also provided.

1.1 PURPOSE OF THE PROJECT MANAGEMENT PLAN

This document is intended to guide the development of the Transport 2020 project from planning through implementation of operations. It fulfills the requirements of the FTA for funding under the New Starts Program as required in the Code of Federal Regulations (49 CFR, Section 5327 – Project Management Oversight). Table 1 lists the elements that FTA requires be part of a PMP. Elements are indexed to the section(s) where each is addressed.

The PMP is written to comply with all of these requirements and to provide a foundation for all planning, design, construction, and implementation steps of the Transport 2020 project. A complete description of project elements is not possible since the planning is preliminary at this writing. Rather, this PMP is designed as a "living document" and will be updated as the project progresses. A revision log will be maintained to document changes over time to the Plan (Appendix A).

This PMP will be progressively revised as development of the Transport 2020 project advances. The following list provides the five primary stages of this development:

1. AA / DEIS (the most conceptual stage)

2. Preliminary Engineering / FEIS
3. Final Design
4. Construction
5. Implementation of Service

This report is one of several products of Stage One, AA/DEIS. The Work of Stage One has been performed by a consultant under contract directly to the City of Madison.

Table 1 – FTA Required Elements of a Project Management Plan (PMP)

FTA Required PMP Elements	Chapter - Section
Adequate staff organization with well-defined reporting relationships, statements of functional responsibilities, job descriptions, and job qualifications	2.3, 2.4
Budget covering the project management organization, appropriate consultants, property acquisition, utility relocation, systems demonstration staff, audits, and such miscellaneous payments as the recipient may be prepared to justify	1.6, 3.3
Design management process encompassing preliminary engineering (PE) and final design	6.2, 6.6, 6.7, 6.8, 6.9
Construction schedule	3.3, 7.1
Document control procedure and recordkeeping system	3.3
Change order procedure that includes a documented, systematic approach to the handling of construction change orders	7.5
Description of organizational structures, management / technical skills, and staffing levels required throughout the construction phase	7.1
Quality control (QC) and quality assurance (QA) programs which define functions, procedures, and responsibilities for construction and for system installation and integration of system components	3.4
Material testing policies and procedures	3.4
Plan for Internal reporting requirements, including cost and schedule procedures	3.3, 4
Criteria and procedures to be used for testing the operational system or its major components	8.1, 8.2
Periodic updates of the plan, especially related to the project budget and project schedule, financing, ridership estimates, and the status of local efforts to enhance ridership where ridership estimates partly depend on the success of those efforts	Appendix A
Recipient's commitment to prepare a project budget and meet each month	4

1.2 TRANSPORT 2020 BACKGROUND

There have been a number of studies prepared previously on possible major transportation improvements for the Dane County/Greater Madison Metropolitan Area; these concluded that high capacity transit is feasible. The results of these studies were considered in the Alternatives Analysis (AA) for the corridor and provided input to the improvement alternatives that were evaluated. The Transport 2020 project was initiated in 1999. The first phase of the study evaluated transportation system improvements for Dane County and the Greater Madison Metropolitan Area; it concluded with a long-term vision and Locally Preferred Alternative for a multimodal transit system consisting of commuter rail, express bus service, park-and-ride lots, improvements to local bus service and future consideration of electric streetcars. The first piece of the LPA, locally known as the Start-Up System, is currently undergoing a detailed analysis. The LPA is centered on a 16-mile rail transit line operating within the existing Wisconsin and Southern (WSOR) railroad corridor connecting commuters from the City of Middleton, just west of Madison, through the west side of Madison and the University of Wisconsin-Madison campus. Likewise on the east, the corridor connects commuters from a point northeast of Madison, just south of the City of Sun Prairie, through the east side of Madison to the University campus (Figure 1).

The recommendations from the Transport 2020 Alternatives Analysis are the outcome a clear progression of land use and transportation studies in the region:

- The Vision 2020 Dane County Land Use and Transportation Plan, completed in 1997, recognized that without improving transit, regional growth would affect mobility for Dane County residents, students and workers. The plan recommends implementing a “balanced” transportation system to “increase reliance on transit...This is especially the case for work trips to central Madison during the peak hours and for school trips. This reduces the demand on the roadway network in terms of congestion and roadway capacity and provides mobility choices for those who wish to use other modes rather than an automobile or who do not have access to an automobile.”¹ Along with recommendations for improving commuter transit service between outlying population centers and the Isthmus, establishing opportunities for park-and-ride transit services into the downtown area, and developing alternatives to all-day commuter parking downtown and at the UW-Madison campus, Vision 2020’s main transportation recommendation was to initiate a Major Investment Study for transit improvements in the east-west corridor.

In addition to the recommendations contained in Vision 2020, numerous transportation plans and studies conducted in the City of Madison and Dane County have considered high-capacity transit improvements to help meet future transportation challenges.

- In 1992, the City of Madison prepared a Light Rail Transit Corridor Study and in 1998 Dane County completed a Commuter Rail Feasibility Study. Both of these studies concluded that investment in high-capacity transit improvements is feasible and worthy of further consideration. While the light rail study and the commuter rail study focused on a particular modal alternative, the Alternatives Analysis has

¹ Dane County Regional Planning Commission, “Vision 2020 Dane County Land Use and Transportation Plan Summary,” 1997, p. 42.

comparatively assessed various transit modes to help determine the most appropriate solution for area transportation challenges.

The City of Madison's 2005 draft comprehensive plan notes strong public support for improving transit in the study area as a means of controlling development, promoting desirable redevelopment, and preserving the city's quality of life, and in consequence endorses the "full system" proposed in the first phase of Transport 2020.² To this end, the Madison Comprehensive Plan includes a major recommendation to pursue the implementation of the full system described in the Transport 2020 first phase report.³

The Downtown Advisory Report (DAR) completed in 2004 as a component of the comprehensive planning process recognizes that ensuring the vitality, livability, and economic viability of the downtown area is essential to the future of the Greater Madison Area. The DAR notes that increasing the number of transit options into and around downtown Madison is strongly supported by stakeholders.⁴

A number of communities throughout Dane County have addressed transportation issues in their long-term plans.

The City of Middleton Comprehensive Plan specifically identifies the Transport 2020 process in its goals and objectives, specifically listing "support the region's Transport 2020 study that is evaluating the future of the existing rail corridor running through Middleton and other area communities" as one of its goals.⁵

The Village of Shorewood Hills is currently drafting its Comprehensive Plan. The draft plan acknowledges the possibility of improved fixed-guideway transit and includes recommendations to work with Transport 2020 planners to ensure that Shorewood Hills is well-served by any improvements.⁶

The City of Sun Prairie's Comprehensive Plan goals include incorporating "commuter rail service into the design of development and redevelopment projects along the Canadian Pacific Rail line" and providing "modes of transportation that meet the special needs of the elderly, children, disabled persons, and persons unable to provide their own transportation."⁷

- The UW-Madison 2005 Campus Master Plan recognizes that transportation planning is essential to that redevelopment, and that the university drives a substantial portion of the transportation demand in the Greater Madison Metropolitan Area. The Campus Master Plan calls for supporting local and regional transportation planning, which includes limiting on-campus parking and developing express transit and park and ride facilities, commuter rail and streetcars.

² City of Madison Draft Comprehensive Plan, p. 3-27.

³ City of Madison, "Public Hearing Draft Comprehensive Plan," 2005, part 2, p. 3-16.

⁴ City of Madison, "Downtown Advisory Report," 2004, p. 27.

⁵ City of Middleton "draft Comprehensive Plan," (<http://www.ci.middleton.wi.us/plans/CompPlan/Draft20060121/>).

⁶ Village of Shorewood Hills, "Draft Comprehensive Plan," 2003, pp. 62-74.

⁷ City of Sun Prairie, "Master Plan 2020," 2000, p. 100.

The Implementation Task Force, composed of members from the state, county, city governments as well as community members, began work in Dec 2003. Their mandate is to continue progress towards the creation of the recommended Transport 2020 transit system. The responsibilities of the ITF include:

- Advising local government and the State regarding implementation of Transport 2020 recommendations,
- Evaluating potential funding mechanisms for the recommended system,
- Evaluating the creation of a new governing structure for transit in the Madison and Dane County areas,
- Determining details pertaining to the oversight, management, and administration of the Federal application process,
- Other aspects important to the establishment of a regional transit system

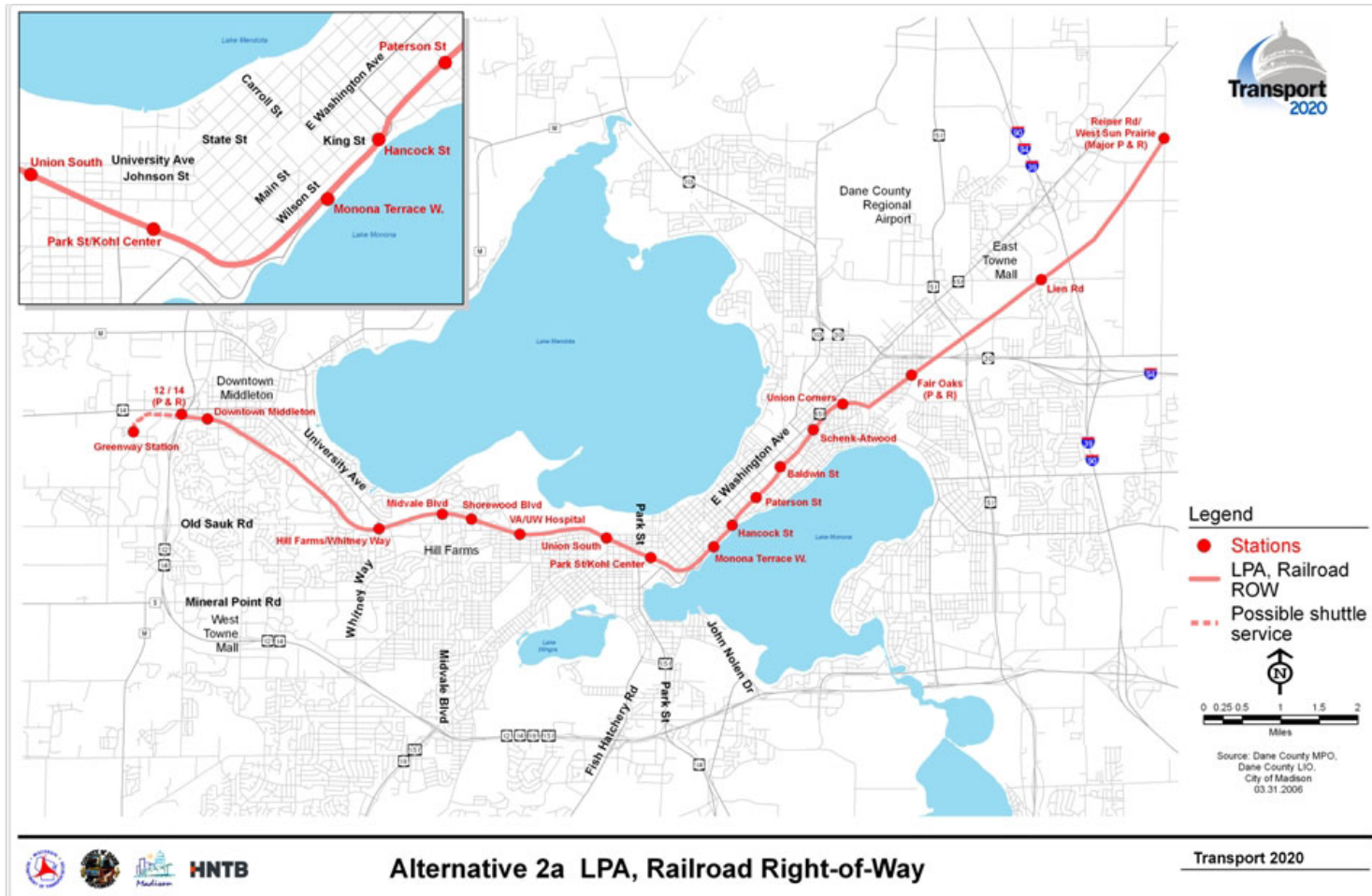
1.3 TRANSPORT 2020 PROJECT DESCRIPTION

The Transport 2020 Implementation Task Force (ITF) selected Alternative 2A as the Locally Preferred Alternative (LPA). Alternative 2A features diesel multiple unit commuter rail vehicles (DMUs) operating in the existing WSOR rail corridor running from the Highway 12/14 interchange in Middleton, through the Isthmus, to Reiner Road, just south of Sun Prairie. This alternative is designed to serve many of metropolitan Madison's major employment, entertainment and shopping destinations, and complements the existing bus system.

Alternative 2A features 17 stations along a 16-mile alignment. The existing railroad corridor will be improved to employ two tracks from WIS 30 on the east to Whitney Way, on the west, a distance of approximately 8.5 miles. Due to right of way limitations, a one half mile segment through the University of Wisconsin at Union South Station will employ a single track. In order to provide cost effective and frequent service in Madison's core, trains will operate on two overlapping routes, identified as the east branch and the west branch. The east branch operates from Reiner Road near Sun Prairie, through downtown Madison, to the Whitney Way; the west branch runs from Middleton to Fair Oaks on the East Isthmus.

The proposed service in Alternative 2A will use DMUs or hybrid vehicle technology operating on the Wisconsin and Southern freight tracks under temporal separation with the existing freight service. The tracks that are currently in place will be upgraded to accommodate the passenger service. Depending on the existing track conditions, the recommended upgrades range from a 33% tie replacement and installation of new continuous welded rail to a complete track rebuild with new ties, rail and ballast. Nine single car trains will be required for the weekday peak service. The planned fleet of eleven vehicles includes two spares. The service design will provide 70 daily trips on weekdays and 40 daily trips on Saturdays on the Western Branch, and 70 and 40 trips respectively on the Eastern Branch. Initially, Sunday service and other special event service will be offered as demand warrants.

Figure 1 – Transport 2020 Commuter Rail Project Alignment



1.4 PROJECT SCHEDULE

A hierarchy of schedules will be produced for the project, ranging from a generalized summary schedule to a cost-loaded critical path schedule for project management and control purposes. A preliminary, generalized schedule for project development through construction is presented in Table 2. As the project advances, the schedule will be replaced with a more formal Project Master Schedule, which will have progressively greater levels of detail. This top level summary version of the Project Master Schedule will, at all times, be a roll-up of a more detailed lower-level schedule network using the Critical Path Method format.

Table 2 – Generalized Transport 2020 Project Schedule

Stage	Task	Start	Finish
<i>AA / DEIS</i>	Draft Environmental Impact Statement	January 2008	October 2009
	Definition of Alternatives	April 2006	September 2007
	Transit Supportive Land Use	May 2006	February 2007
	Ridership Forecasting	April 2006	October 2007
	Capital and O & M Cost Estimates	May 2006	October 2007
	Evaluation of Alternatives	October 2007	November 2007
	Prepare Project Plans	January 2007	May 2007
	Develop Financial Plan	August 2007	May 2008
	Preparation of FTA New Starts Report	June 2007	May 2008
	FTA Application for PE Funding	June 2008	June 2008
<i>FTA Decision on Entering Preliminary Engineering</i>			November 2008
<i>PE / FEIS</i>	Conduct Preliminary Engineering	January 2009	June 2010
	FTA Application for FD Funding	June 2010	June 2010
<i>FTA Decision on entering Final Design</i>			October 2010
<i>FD</i>	Conduct Final Engineering & Design	October 2010	October 2011
<i>FTA Decision on Full Funding Grant Agreement</i>			January 2012
<i>Construct</i>	Procurement & Construction	April 2012	July 2014
	Training and Testing	July 2014	January 2015
	Service Implementation	January 2015	

1.5 PROJECT FINANCING

Enabling legislation must be passed at the State level in order to authorize the creation of an RTA. Once created, the RTA would function to provide funding as well as policy direction and guidance for the Transport 2020 project. The RTA will be a comprehensive, countywide, regional transportation system that would provide transportation infrastructure to the entire region. It is anticipated that this legislation will be passed by the State legislature and signed by the Governor during the January 2009 biennial legislative cycle, which will meet the timeline for implementation of a new sales tax to support the RTA and the Transport 2020 project. The RTA would include participation by the City of Madison, Dane County, local municipalities throughout Dane County, and community partners, including the University of Wisconsin–Madison and the Madison Area Metropolitan Planning Organization. The enabling legislation, which would allow for up to a half-cent sales tax, would go before the citizens in a countywide referendum; its implementation would be contingent upon receiving federal transit funds. It is estimated that this tax would generate \$42 million annually, of which a portion is anticipated to cover the entire non-federal share of capital, operating and maintenance costs of the Transport 2020 project. This sales tax funding would be apportioned to Transport 2020, as well as other regional transportation initiatives. The funding breakouts could be as follows (although detailed local discussions are ongoing):

- 33 percent: first phase of Transport 2020,
- 25 percent: Metro Transit buses,
- 25 percent: town, village, city and county road maintenance,
- 17 percent: paratransit services, rail and bus enhancements, and bicycle facilities.

The City of Madison Common Council and Dane County Board of Supervisors passed resolutions in August and September 2007 supporting the passage of this proposed legislation. In addition, the Madison Area Metropolitan Planning Organization also passed a resolution of support for this legislation in September 2007.

The ITF expects that capital costs of the LPA would be evenly funded between the regional sales tax and a FTA New Starts capital grant. Funds for PE, approximately \$5.5 million, would be funded through Federal, State and Local grants.

1.6 LEGAL AND STATUTORY AUTHORITY

The Regional Transportation Authority is expected to be enabled by the Wisconsin State Legislature and Governor to coordinate transportation for the communities of Dane County. In the interim, the PE/EIS phase of Transport 2020 will continue to be managed through the collaborative approach established for the AA phase. Specifically, an Intergovernmental Agreement (IGA) formed a Consortium of the Wisconsin Department of Transportation (WisDOT), Dane County, and City of Madison to define management of the alternatives analysis/environmental phase of the project, including initiation of the PE phase. The IGA establishes an Implementation Task Force (ITF), which makes policy and project decisions for Transport 2020.

Building on this IGA, either a modified agreement or memoranda of agreement will be used to specify the roles and responsibilities of each of the three parties in the next phase of project development, the PE phase. The City will continue to act as the agent of the Consortium and both receive and administer funds allocated for the PE work.

2. PROJECT ORGANIZATION

This chapter discusses the organization and staffing of the Project Team needed to complete the Stage Two PE / FEIS. It is anticipated that Stage Three Final Design and Stage Four Construction will be performed under a new Regional Transportation Authority (RTA) as described in Section 2.6. As development of the Transport 2020 project advances through each of these stages, the level of staff resources will be modified to adjust for changes in workload. The PMP will be updated prior to the onset of each project phase.

2.1 BACKGROUND

Until the RTA is established, Stage Two of the project (Preliminary Engineering / FEIS) will be managed by the City of Madison. Stages Three through Five (Final Design, Construction, and Implementation) will be funded and administered under the auspices of the RTA. The RTA would function as the operator of the Transport 2020 project.

2.2 POLICY-MAKING ORGANIZATION

Until the RTA is established for later project implementation stages, the existing Consortium described in Section 1.7 will continue in its role of policy making authority. The Consortium, through the ITF, will continue to make decisions on various design aspects such as station locations, travel speeds, and alignment, and operational aspects of the overall system. Other parties involved in Transport 2020, including Madison Metro Transit and Wisconsin and Southern Railroad will also be officially incorporated into any future agreements, either through an amendment to the existing IGA, or through a memorandum of agreement.

2.3 TRANSPORT 2020 PROJECT ORGANIZATION

The Consortium will carry out the PE/FEIS for the Transport 2020 project. For Stage Two, the team is to be comprised of staff of the City of Madison, Dane County, the Wisconsin Department of Transportation, and consultants. Such an approach, which utilizes existing Transport 2020 Consortium personnel and established working relationships will:

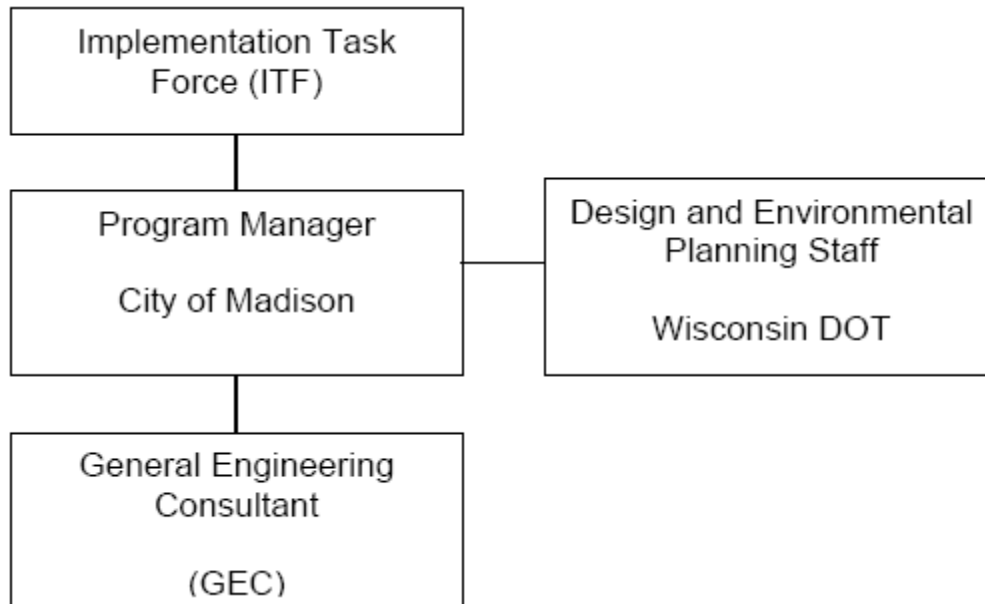
- Maintain the existing Program Manager, who has developed technical capacity and institutional knowledge about planning and project development phases to date;
- Utilize technical expertise and demonstrated capability at the Wisconsin DOT to provide review of, and consultation on the design work; and
- Retain administrative and technical oversight by the Implementation Task Force (ITF) for additional decision making.

To support this existing structure, the Consortium will retain a General Engineering Consultant (GEC) for the PE design phase to continue preliminary engineering to support the FEIS and ROD.

The project management organization for the Transport 2020 project is shown in Figure 2. The existing Program Manager from the City of Madison will continue to lead the project team. The Program Manager is overseen by the ITF, which will continue to make overall decisions related to policies and project implementation. The Program Manager will oversee preliminary engineering and will be responsible for the financial, schedule and overall performance of the Transport 2020 project. The WisDOT Design Liaison, as supported by design discipline staff from WisDOT, will provide

PE review and consultation during the PE/FEIS phase. The Program Manager will be supported by key staff from the GEC, providing engineering, architecture, planning, environmental, scheduling, cost estimating and public involvement functions.

Figure 2 – Organizational Chart of Transport 2020 PE/FEIS Project Staff



The various organizational duties and disciplines that will be required include the following:

- Project administration and coordination
- Project management: budgeting, cost control, document control, configuration control, and scheduling
- Planning and environmental assessment: transportation, environmental, land use, and financial planning
- Engineering: facilities, civil, systems and vehicle engineering
- Public involvement and media coordination
- Architecture / stations: appearance, fit and function of all buildings and infrastructure and coordinating these designs with general engineering
- Property procurement
- Quality assurance and quality control
- Liaison and coordination with other agencies and organizations, including the private railroads whose rights-of-way will be shared

Lead and support roles within each discipline could be RTA staff or consultants, depending on management choices to be made by the RTA. Many start-up transit operations have found it cost effective to run the design and construction phases with a relatively small agency staff relying on a general engineering consultant and a construction management consultant to provide experienced staff to implement specific tasks. The quantity of consultant staff can be adjusted as demanded by the work load. The T2020 team will operate in such a manner with responsibilities assigned as noted below.

2.3.1 General Engineering Consultant

The General Engineering Consultant will be responsible for the preliminary design of the Transport 2020 system under the direction of the Program Manager. Tasks include baseline and control surveys, utility relocation identification, preliminary track alignment, station location studies, land acquisition identification, maintenance facility layout, 30% design plans, cost estimates and project schedule. The GEC will also be responsible for the preparation of the FEIS and conducting public involvement activities.

2.3.2 Agencies and Organizations

Implementation of the Transport 2020 project will involve the efforts of governmental agencies, utility companies, railroad companies and others. Project files will include current listing of need for and status of formal agreements with agencies and organizations. These parties and their roles are described as follows:

Federal Transit Administration (FTA) – FTA administers grants and oversees the expenditure of federal funds for mass transit projects. FTA also contracts with its own PMC consultant to act as an extension of its project management staff in monitoring the grantee’s performance on the project.

Federal Railroad Administration (FRA) – FRA is the regulator of freight railroad safety. The Program Manager, assisted by the GEC will coordinate with the FRA to ensure that the design meets applicable safety regulations and that the host railroads operations are not adversely impacted by the new passenger service in the corridor.

State of Wisconsin – The project will be constructed in the State of Wisconsin and is subject to state laws and regulations regarding safety, health, welfare and the environment. Coordination will be necessary with various state agencies including the Wisconsin Department of Transportation. WisDOT is an active participant in the Consortium and will be an important stakeholder in the project. WisDOT owns a substantial portion of the project corridor from the western terminus to Broom Street, and between “Junction A” (around First Street) to the eastern terminus. Union Pacific railroad owns the rail right of way between Broom Street and Junction A. WisDOT has already made contributions to the AA phase and will provide PE review and consultation during the PE/FEIS phase. Furthermore, a portion of the Transport 2020 corridor will be shared with future high speed rail passenger service between Milwaukee and Madison. Close coordination will be required to accommodate future intercity passenger rail service in the corridor.

University of Wisconsin-Madison – UW-Madison is an active participant in the ITF. The Transport 2020 alignment will be routed near portions of the UW-Madison campus as well as the UW Hospital and Clinics, which are major traffic generators. The project team will continue the ongoing coordination with UW-Madison staff to provide effective and safe transit service to the university.

Wisconsin and Southern Railroad (WSOR) – The Transport 2020 project will occupy right of way and use rail yard facilities owned and operated by WSOR. WSOR contracts with the Wisconsin River Rail Transit Commission to provide service. The project team will need to obtain a Right-of-Entry permit to use and/or enter upon right of way and ensure that the Transport 2020 project does not conflict with existing railroad operations.

2.4 KEY PERSONNEL

The key staff for and primary areas of responsibility within the management team are described as follows:

Program Manager (City of Madison) – provides for the overall management of the administrative and technical aspects of the project. The Program Manager monitors and controls the scope, budget and schedule of the Transport 2020 project. Another key function is communicating the important aspects of the project to the public, stakeholders, government agencies and the Consortium. The Program Manager ensures that the Consortium’s goals, objectives and policies are incorporated into the development of the project.

The Program Manager represents the Transport 2020 project to outside agencies and organizations including federal, state, regional and local agencies as required by regulation. The Program Manager will lead and participate in discussions with community leaders and the public concerning the specific aspects of the project.

The Program Manager is responsible for coordinating negotiations and discussions regarding initial railroad operating agreements.

WisDOT Design Liaison –coordinates with the Program Manager on project controls and quality assurance program, in accordance with the project procedures. The WisDOT Design Liaison will provide PE review and consultation in order to help ensure that the project meets environmental and permitting requirements.

GEC Project Manager - assists the Program Manager in managing the day-to-day activities of the Transport 2020 project. The GEC Project Manager reports directly to the Program Manager; having specific responsibilities for closely monitoring the project activities, budget, schedule and scope and communicating changes to the Program Manager for disposition.

GEC Planning Lead – reports to the GEC Project Manager. Provides management oversight and coordination of planning activities such as detailed alternative evaluation, station planning conducting transportation and parking studies, financial planning and environmental documentation. Oversee the preparation of the FEIS/ROD. The Planning Lead is also responsible for oversight of the separate technical studies to be prepared in support of the FEIS/ROD.

GEC Engineering Lead – reports to the GEC Project Manager. The Engineering Lead provides management oversight and coordination of all engineering activities such as studies, capital cost estimates and plan preparation.

GEC Public Involvement Lead – reports to the GEC Project Manager. The PI Lead develops a comprehensive PI plan and oversees execution. Periodically evaluates and updates the plan. Coordinates all community relations and support efforts related to the Transport 2020 project. The PI Lead is responsible for community and neighborhood outreach activities; preparation and distribution of newsletters, exhibits and all other public presentation materials; news media relations and coordination between the project team and the community.

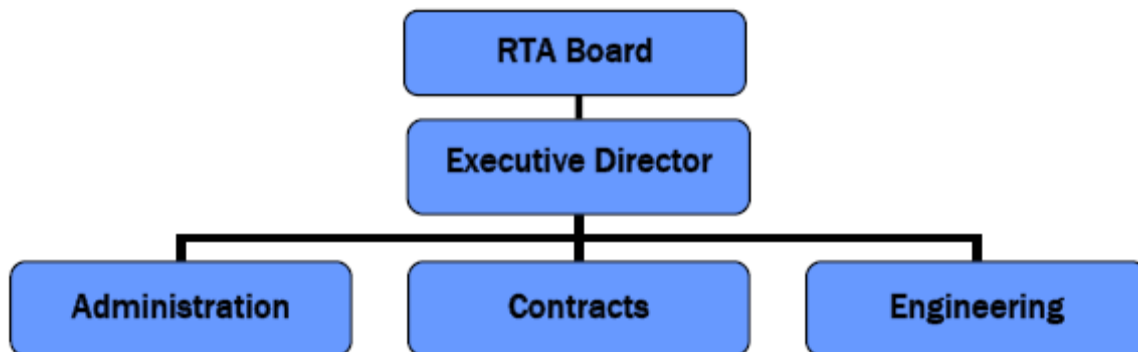
2.5 FUTURE RTA ORGANIZATION

The Regional Transportation Authority is expected to be enabled by the Wisconsin State Legislature and Governor to coordinate transportation for the communities of Dane County. The RTA will be the recipient of state and federal funds. The RTA will be accountable to the state legislature, Dane County and the FTA for the expenditure of funds for Transport 2020.

A plan for the structure of the RTA will be submitted to the state legislature and governor's office. The RTA will draw on the funding generated through the sales tax to provide funding for operating and maintenance costs and to provide policy guidance and direction. It is expected that the RTA will consist of a policy-making structure as shown in Figure 3. An RTA Board will have ultimate authority for regional transportation issues and subsequent specific projects under their authority. The Board composition, structure and manner of appointment is yet to be determined. The Board will address regional issues that go beyond city and town borders or affect the key operational aspects of the overall RTA system. The division between local and regional decisions will be subject to a policy document adopted by the involved parties. Elements of the policy will be incorporated into a Memorandum of Understanding to be signed by all parties. Any MOUs will be appended to this PMP.

It is expected that the RTA will oversee the future stages of final design, construction and implementation of the Transport 2020 project. The four key positions are anticipated to be filled by the RTA or loaned from local agencies such as Madison Metro Transit, the City of Madison or Dane County. The roles and responsibilities of each position will be more fully developed as the RTA structure is finalized.

Figure 3 – Initial Proposed RTA Structure



3. PROJECT MANAGEMENT AND CONTROL

3.1 MANAGEMENT STRUCTURE

The Consortium will be responsible for implementing the PE/FEIS stage of Transport 2020. The management structure for PE/EIS for the Transport 2020 project is comprised of the staff of the City of Madison, Dane County, the Wisconsin Department of Transportation and the General Engineering Consultant. This environment will provide effective project management and control throughout PE/FEIS.

3.2 DECISION AUTHORITY

The existing Transport 2020 Implementation Task Force will retain decision-making authority through the PE/FEIS stage.

3.3 PROJECT CONTROL

Control of the Transport 2020 project will involve four interrelated elements, including:

1. Scope – all work to the account of the agencies making up the Consortium (adjusted in later stages when the RTA is established)
2. Quality of the completed project – meeting established quality standards or specification for planning, design the quality and life of materials and equipment items, the levels operational service, efficiency, safety, security and reliability and the degree of maintainability
3. Capital costs - completed project cost estimate
4. Completion schedule – development through the phases of planning to start-up

Controlling these variables will initially be the responsibility of Consortium, supported by its principal Consultants. Control functions will be centralized even though all project participants feed vital inputs into the project control mechanisms, which include standard project procedures and management information systems. Control of these variables cannot start effectively until the project definition, or system specification, has advanced far enough to permit the project scope, quality, cost and schedule to be reliably defined and then base lined. Projects are controlled by managers who periodically check to determine whether the ongoing work, be it design, construction, procurements, installations or testing, is proceeding as planned, not only "within budget and on schedule", but also as scoped and within agreed quality objectives.

Base lining begins early in PE/FEIS starting with the establishment of design criteria. At the end of PE/EIS, the baseline for the four variables for final design is established for project control. Based on frequent review of and application of Quality Assurance processes, the Consortium and other agencies with appropriate authority should be able to approve the preliminary designs and specifications in a timely manner, and to expect that final design, construction, and procurements will follow consistent with the base lined definitions or values for scope, quality, price, and completion schedule. Preliminary design, of which "preliminary engineering" is a part, will see all basic design alternatives resolved

and will produce a design definition, for facilities especially, which can and should become frozen as the bases of final or detailed design.

3.3.1 Project Baselines

Although there are other methods of control, the one that is principally used on major projects consists of setting a series of project baselines or objectives. These are developed during PE/FEIS and set at the completion of preliminary design. As design and construction progresses, periodic comparisons are made between baselines and current projections of what those project qualities will be at completion. For example, when the base lined completion date and its current projection differ significantly or show a trend of widening variation, a "red flag" or exception report is produced. This is intended to alert management to a variable, schedule in this case, which is straying from plan. Such an early warning is intended to give management time to assess the cause of the problem, to evaluate alternative courses of action to restore the project to plan, and to order the concluded action be taken. When restoration to the original plan or the current baseline is impractical, the baseline must be formally revised and updated and the impact of such change on the other baselines must be recognized. Thus, baselines are specific references the Program Manager, with assistance from the GEC will develop during PE/FEIS and set at around the 30 percent level of design completion, upon which "back sights" are taken periodically to verify the project is "on time and within budget" and otherwise on track.

Physical Scope Baseline

The physical scope of the Transport 2020 Project will be well established during PE/FEIS. Early in PE/FEIS a baseline scope will begin to emerge. The adopted scope will be formalized and a process will be implemented to review and accept or reject changes to the baseline. During the PE/FEIS stage, the Consortium will maintain authority in defining the project scope. The preliminary alignment and station location analyses along with the design drawings will help to define the scope. In general, the project scope baseline at the end of PE is the preliminary design submittal, once approved, for final design.

During the implementation of the Transport 2020 Project, responsibilities for scope control and approval will be delegated including:

- Project Definition/System Specification
- Configuration Management/Change Control
- Interface Control.

These mechanisms will be formalized during PE for use during final design.

Functional Scope and Quality Baseline

What the Consortium may adopt as the project's functional scope and quality is more difficult to define than its physical scope. Functional scope includes such objectives as level of service and degree of safety. Quality in this usage refers to such objectives as the reliability of the public service, the comfort of the trip, the convenience of intermodal transfers and the cleanliness of the rolling stock. Base lining, or establishing a reference objective, for these qualities requires the characteristics of the system to be defined and norms or minimum standards be stated or described. These become

reflected in various written plans and programs that help control these variables, preventing costly "creeping enhancement" and the opposite, failure to conform. Among the plans that help manage these variables are:

- Operating Plan
- Maintenance Plan
- System Assurance Plan
- System Safety and Security Plan
- Rail Fleet Management Plan

These plans, programs and design bases will be described later in this PMP.

Capital Cost Baseline

The capital cost of the project is one of the more recognized variables that must be controlled. At the outset of PE, an initial review will be made of the cost estimate produced during the AA. That cost estimate will be refined at the 10 percent and 30 percent levels of design. Once the project definition has advanced to about its 30 percent level of design an estimate of its cost will be prepared and projected over the project schedule to day-of-expenditure-dollars. This estimate will include all costs that apply to the Transport 2020 Project, including the direct cost of facilities and systems, the costs of right-of-way; adjustment or relocation of conflicting third party facilities and start-up costs. Other costs will include the allocated share of Consortium agency staff costs, costs of project management and control, design, appraisals, construction and procurement management, insurance costs, training costs, and other soft costs. In addition, the base lined estimate will include a project reserve fund including an allowance for escalation in excess of that inherent in the projected costs.

3.3.2 Schedule Baseline

In a manner similar to the capital cost, the "Project Master Schedule", will be developed early in PE and updated in concert with the preliminary designs (10 percent and 30 percent level of design development), approved by the Program Manager, in consultation with the WisDOT Design Liaison, then published as the schedule reference to project completion. All events that can conceivably impact the progress of the work, even events whose costs are not to be borne by the project, will be shown, along with the logic of their timing.

The project's schedule control system will periodically compare current status of work against the base lined Project Master Schedule and will report where progress is falling behind the intended rate of advance.

3.3.3 Management Information and Control Systems

A common method of project control entails taking periodic reviews on adopted baselines and references, then comparing current status with intended status. Where these are trending apart, the project's Management Information System highlights them and calls management's attention to the need to take corrective action of some type. Managers will use the information produced by the project control systems and react appropriately.

Work Breakdown Structure

A Work Breakdown Structure (WBS) will be devised early in PE and updated as necessary to facilitate the management and control of costs and schedule. The Program Manager and GEC, in consultation with the WisDOT Design Liaison, will develop the WBS to a level of detail needed for project control. The WBS is a subdivision of all project work into manageable units to facilitate control. It will include non-work cost items as well. The WBS will become a common reference for cost control and schedule control and will also be reflected in the mechanisms that control scope and quality.

Cost Control

The control of capital costs is vital to project success because neither the Consortium agencies, nor the future RTA will have unlimited funds and their financial plans will rely on a specific level of budget. The information system software will be loaded with the base lined capital cost estimate (preliminary design base) and its report formats and scopes devised. Such reports could, for example, display the following information for each WBS account and level:

- | | |
|----------------------------------|------------------------------------|
| ▪ WBS Reference (alpha/numeric) | ▪ Expenditures This Period (\$) |
| ▪ Cost Item (Name) | ▪ Actual Expenditures To Date (\$) |
| ▪ Cost Item Category Code | ▪ Percent of Baseline Expended (%) |
| ▪ Original Base lined Cost (\$) | ▪ Cost To Complete (\$) |
| ▪ Amended Base lined cost (\$) | ▪ Final Cost Forecast (\$) |
| ▪ Current Working Estimate (CWE) | ▪ Variance from Baseline (\$) |
| ▪ Budgeted Amount To Date (\$) | ▪ New Current Working Estimate. |

The cost control system includes the procedures for making forecasts of the cost system elements and publishing reports periodically. It also identifies the managers responsible for analyzing cost reports, noting trends or deviations from baseline, evaluating alternative courses of action to restore the forecast to plan, selecting corrective action and recommending actions to control costs. Where there are causes for cost variance beyond the control of management, a formal revision or updating of the baseline is required, borrowing from the project reserve if warranted. In this manner, the Consortium agencies and project consultants "steer" the project to stay within the targeted cost.

Budget Control

The Consortium agencies will set a specific budget for the PE/FEIS stage. The overall cost of the project must be controlled, and it also must be controlled in annual increments or budgets. Therefore, the project control mechanisms must include reference to cash flow and contractual commitments in relation to the current annual budget, as well as reference to the base lined capital costs. "Capital Cost"

The budgeting process plans for budget revisions, budget amendments and revisions to the authorized personnel position levels. As necessary, budgets and staffing levels can be changed with proper justification.

Contingency Control Program

The base lined capital cost will include contingencies within selected line items and a project reserve. Amounts no longer needed in the contingency fund will be transferred to the project reserve.

The construction line items will include a contingency that will be managed over the period of construction and drawn upon for non-anticipated events. It will be managed on an aggregate basis, not by contract unit, although each contract awarded will be given a fixed percentage allowance for normal changes and claims. As construction and procurements progress, and risk of unknowns diminish, the contingency funds shown in the line items will also be reduced, independently of allocations made for cause. Amounts no longer needed in the line items will be transferred to the project reserve.

Schedule Control

Conceptually, control of the time aspects of the project is effected in the same manner as the control of costs. In this case, the Project Master Schedule is the baseline, and periodic projections of the time of completion and intermediate milestones, as contrasted to the Master Schedule, gives management a new reading of project status and schedule adherence. The selected software will facilitate schedule maintenance and test impacts of proposed schedule changes. The Program Manager, the WisDOT Design Liaison and members of the consultant team will be required to input monthly data on project progress by WBS. These reports will be correlated and a monthly assessment of progress will be produced along with a narrative progress report. When such reports show trends away from the base lined schedule due to any cause, the responsible manager will highlight exceptions for response.

In later phases, during construction or procurement, the members of the consultant team, as manager of construction in concert with the appropriate RTA staff, will work with the contractors and develop remedies for restoring the project to schedule. Where such restoration is impractical, the parties would recommend a revision in the schedule.

Change Control

During PE, the Program Manager and GEC (in consultation with the WisDOT Design Liaison) will draft, as necessary, a set of Change Control Procedures that will support the Configuration Management and Interface Control Programs. The Program Manager, in consultation with the WisDOT Design Liaison, will institute a formal change proposal when a change in the ongoing work or a base lined quality is being proposed or precipitated by project circumstances.

The Change Control Procedures will formalize the assessment of proposed changes. The secondary or ripple effects of proposed changes, on other factors such as capital cost or schedule, will be analyzed. The proposal will then be advanced up the line to the proper decision-making level of authority where approval or rejection of the change can be made. During final design and construction a proposed RTA Contract Administrator would be responsible to rule on changes that have potentially profound impacts. The need for specific degrees of formalization and the decision making process of the Contract Administrator will be defined when the Change Control Procedures are written.

Changes can only be controlled after a baseline is established. Before that time, the bases of final design are still evolving and changes can be made without the strict control that must be imposed during final design and construction/procurement, except for those technical baselines such as design criteria that may be established before completion of preliminary design.

3.4 QUALITY ASSURANCE/QUALITY CONTROL

A Quality Assurance/Quality Control Plan must be developed to cover the preparation of the Final Environmental Impact Statement and Preliminary Engineering of the Transport 2020 Project, which would provide details of the quality assurance activities of the Program Manager, the WisDOT Design Liaison and GEC. The plan will have to be updated and amended for final design, equipment procurement, manufacturing, installation, construction and testing, and start-up phases. Well before final design, an updated plan will be prepared. The focus of a quality plan should be to establish a methodology for maintaining specified quality by establishing a timely, independent review and checking procedure designed to minimize reworking, re-engineering, and rethinking of previously completed tasks.

The GEC will be required to submit for approval a Quality Assurance/Quality Control Plan including the procedures necessary to implement the requirements of this plan with regard to the engineering aspects of the project.

In future stages of implementation, the Quality Assurance /Quality Control program will follow professional standards with an RTA overall plan and specific compliant sub-plans for each consultant and /or project element.

4. COMMUNICATIONS PROGRAM

This section addresses the communications program primarily to be used by the ITF and Program Manager during the PE/FEIS stage. The communications program will continue to be updated in the Project Management Plan through future project stages when the RTA is in place to manage the project.

Two levels of communication will be addressed: (1) between the ITF, the FTA, and consultants, and (2) between the ITF and affected agencies, and the public at-large.

4.1 MONTHLY STATUS REPORTS

The Transport 2020 GEC project manager will be responsible for preparing written and oral reports about the status of the project to present to the Program Manager. The Program Manager, in consultation with the WisDOT Design Liaison, will provide a summary of the current status of project work to ITF members and present status summaries at ITF meetings. The Program Manager will prepare a written project status report directed to FTA covering in particular:

- Project budget versus expenditures,
- Projections of costs to complete and total cost;
- Progress made to date versus scheduled progress;
- Issues and changes,
- Financial status of the project,

- Cash flow status and projections, and
- Any anticipated funding shortfalls.

In addition to the monthly reports, the Program Manager will prepare and submit to the FTA the following:

- Quarterly Financial Report,
- Quarterly DBE Progress Report
- Reports of Significant Events - special reports to be made to the FTA when unforeseen events impact the project schedule, cost, capacity, usefulness or purpose.

4.2 COORDINATION MEETINGS

The GEC project manager and key personnel will meet regularly with the Program Manager as needed, but not less than once a month. These meetings may be by conference call. The GEC project manager and the Program Manager will attend scheduled ITF meetings to provide project updates.

Additional special coordination meetings may be held and attended by various project team members, depending on discussion topics. These meetings can include technical subcommittee and elected official meetings, or individual agency and community staff meetings.

Effective communication will result from properly planned, led and chaired meetings. The GEC project manager will establish guidelines for these meetings to include as principles:

- Every meeting will have a scheduled location and scheduled time to begin and end.
- Weekly issuance of a calendar of upcoming meetings to help participants avoid conflicting schedule commitments.
- Participation at these, and all other meetings, by invitation, not by "drop-in."
- Every meeting will have a leader.
- The leader should publish and distribute the meeting agenda beforehand.
- Meetings will be conducted to reach conclusions. Set directions or have some positive, definitive outcome.
- The meeting leader will clearly identify the party or parties responsible for the actions determined to be necessary.
- Notes will be taken at every meeting.
- Notes will be reproduced promptly after the meeting and distributed to participants and other non-participants predetermined to receive such documentation.
- Action item lists will be used to track the progress of issue resolution. Updated action item lists will form a part of the notes documenting the meeting.

- Attendance at the meetings will be recorded on a sign-in sheet for recording of name, firm affiliation, telephone number, and e-mail address. Copies will be provided to all participants at the meeting's end and the attendance record will become a part of the meeting notes.

When requested by the FTA or the Program Manager, Quarterly Project Management Meetings will be scheduled and held to provide a forum for management briefings with FTA representatives, presentation of oral status/progress reports, discussion of problems and accomplishments, and inspection of construction in progress.

4.3 DBE PROGRAM PROGRESS REPORTS

Monthly PMC invoices will report on the commitment to DBEs, the invoice amounts, percentages invoiced to date, and the projected amounts and percentages at completion.

4.4 COMMUNITY PARTICIPATION PROGRAM

During the PE/FEIS phase of the work, a Public Involvement Plan (PIP) will be prepared and a Public Involvement Program will be initiated to maximize involvement of the public, and other stakeholders, in the Transport 2020 Project. The PIP will be adopted and appended to this PMP.

During construction and during operation of the system, neighboring communities may be subject to increased noise, traffic, and other inconveniences. The RTA will make every effort to mitigate these potential impacts. The RTA will continue the community involvement work that commenced during the PE/FEIS phase and will offer more opportunities for the public to participate meaningfully, through final design and construction.

4.5 PUBLIC INFORMATION PROGRAM

The public information program is a component of the public involvement program. As such, the information program is discussed in the Public Involvement Plan (PIP). A PIP will be developed during the PE/FEIS phase of the project and will be incorporated, by reference, to this PMP. The goals of the PIP will be:

- Generate public ownership of the decision-making outcome
- Identify potential obstacles and anticipate possible solutions. Pave the way for more efficient implementation by avoiding revisiting decisions and potential litigation
- Enhance the Consortium/RTA's credibility

Subject to plan development, the PIP will address or include:

- Measures to manage the accuracy and quality of project information to be released to the public including: drafting press releases covering significant projects events, continuing preparation and distribution of a project newsletter which exists; developing display and projection graphics to better convey the Transport 2020 Project, preparing or editing feature articles about the project, preparing communication materials;
- Maintaining a "fact book" as a common reference for all staff and Board members;

- Media contacts;
- Planning and staging special events and campaigns related to the Transport 2020 project.
- Process for maintaining a project website along with a feedback mechanism.

A key function of this program will be development and maintenance of an Internet web site to serve as a repository for public project documents and to receive community feedback from e-mail postings.

5. HUMAN RESOURCES AND LABOR RELATIONS

Consistent with the AA stage, the PE/FEIS stage will be subject to the City of Madison's existing Human Resources and Labor Relations requirements. As such, there are few, if any, statutory or regulatory requirements in the realm of human resources and labor relations with which the city has not dealt. To the extent researched, those that constrain, control or otherwise impact the Transport 2020 Project are listed in the following sections. Most of these derive from the city's historic operations and will be modified to apply to the operation of a rail transit system, an activity new to the Consortium, which includes the city, Dane County and WisDOT. When the RTA is implemented, formal Human Resource and Labor Relations requirements will be formulated, but are expected to continue to largely mirror those of the city, which currently operates a transit system.

5.1 FEDERAL REQUIREMENTS

By use of Federal funds on the Transport 2020 Project, the city, as an agent for the Consortium during the PE/FEIS must conform to certain Federal requirements in the personnel/labor area as well as in the procurement process, plus meet other Federal regulations that apply regardless of funding sources. Those cited here cover most of the Federal requirements that apply.

5.1.1 Civil Rights Requirements

The city must comply with all civil rights program requirements that apply to transit-related projects. The applicable civil rights program areas are:

- Title VI of the Civil Rights Act of 1964 (Service Delivery/Benefits);
- Equal Employment Opportunity (EEO);
- Disadvantaged Business Enterprise (DBE) Program (Section 1101(b)); and
- Americans with Disabilities Act of 1990.
- NEPA Environmental Justice requirements.

All required civil rights program submissions must be approved by the FTA and are periodically updated in accordance with program guidelines.

Nondiscrimination in Federal Transit Programs (49 USC Section 5332), which prohibits discrimination on the basis of race, color, creed, national origin, sex or age, shall be excluded from participation in, be denied the benefits of, or be subject to discrimination under any project, program, or activity funded in whole or in part through FTA financial

assistance. This nondiscrimination provision applies to employment and business opportunities and is to be in addition to the provisions of Title VI of the Civil Rights Act of 1964, as amended.

Title VI of the Civil Rights Act of 1964, as amended (Service Delivery/Benefits). Once the initial Title VI submissions have been approved, updates are required every three years unless otherwise requested by the FTA.

Equal Employment Opportunity. Because of the magnitude of the Transport 2020 Project, the City of Madison is required to have its EEO programs approved by the FTA. Further, this requirement must be extended to City contractors who have more than 50 employees. The city has established its own Equal Employment Opportunity Program that is regularly maintained and updated. The current program will be reviewed for any changes that the Transport 2020 Project may precipitate.

Disadvantage Business Enterprise Program (DBE). The city must meet the requirements of the US Department of Transportation's regulations "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs." The city will renew and update its DBE Program as necessary to support the Transport 2020 Project.

Americans with Disabilities Act (ADA). The city and its contractors must comply with all applicable requirements of the Americans with Disabilities Act of 1990; Section 504 of the Rehabilitation Act of 1973, as amended; Section 16 of the Federal Transit Act, as amended, and the following regulations and amendments thereto:

- US DOT regulations "Transportation Services for individuals with Disabilities; Americans with Disabilities Act (ADA)," (49 CFR Part 37);
- US DOT regulations. "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 CFR Part 27);
- Joint US Architectural and Transportation Compliance Board/US DOT regulations, "Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 CFR Part 1192 and 49 CFR Part 38;
- Department Of Justice regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services," (28 CFR Part 35);
- US DOJ regulations, "Nondiscrimination on the Basis of Disability Public Accommodations and in Commercial Facilities," (28 CFR Part 36);
- General Service Administration regulations, "Accommodations for the Physically Handicapped," (41 CFR Subpart 101 -19);
- EEO Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," (29 CFR Part 1630);
- Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled," (47 CFR Part 64, Subpart F), and
- FTA regulations, "Transportation for Elderly and Handicapped Persons," (49 CFR Part 609).

- Architectural and Transportation Barriers Compliance Board regulations, “Electronic and Information Technology Accessibility Standards,” 36 CFR Part 1194; and
- Other Nondiscrimination Statutes that may apply to the LRT Project

5.1.2 Wage and Hour Requirements

The city must comply with all Federally-decreed wage and hour requirements, including but not limited to, the Davis-Bacon Act, 40 USC; the Copeland Act, 18 USC Section 874, at seq. as supplemented by Department of Labor regulations set forth in 29 CFR Parts 1, 3, 5, 6 and 7.

5.2 LOCAL LABOR CONDITIONS

5.2.1 Existing Labor Agreements

5.2.2 Transport 2020 Project Outlook

5.2.3 On-Site Construction

5.2.4 Off-Site Manufacture/Assembly

5.3 AFFIRMATIVE ACTION PLAN

6. DESIGN PROGRAM

6.1 BASIS OF DESIGN

6.2 MANAGEMENT OF DESIGN

6.3 PRELIMINARY ENGINEERING (PE) AND FINAL DESIGN (FD)

6.4 ENVIRONMENTAL MITIGATION MEASURES

6.5 OPERATIONS AND MAINTENANCE PROVISIONS

6.6 DESIGN CRITERIA AND STANDARDS

6.7 CONSTRUCTABILITY REVIEWS

6.8 ROUNDTABLE DISCUSSIONS AND PEER/INDUSTRY GROUP REVIEWS

6.9 VALUE ENGINEERING

6.10 CONTRACT DOCUMENTATION PREPARATION

7. PROCUREMENT AND CONSTRUCTION MANAGEMENT

7.1 MANAGEMENT RESPONSIBILITIES

7.2 CONTRACT ADMINISTRATION

7.3 THIRD PARTY CONSTRUCTION

7.4 VALUE ENGINEERING CHANGE PROPOSAL EVALUATIONS

7.5 FINAL ACCEPTANCE/CONTRACT CLOSE-OUT

8. START-UP PREPARATIONS

8.1 INTEGRATED TEST PROGRAM

8.2 ACTIVATION PLANNING

8.3 OPERATIONS AND MAINTENANCE PERIOD

9. REAL ESTATE PLAN

10. RISK MANAGEMENT

11. SYSTEM SAFETY AND SECURITY

12. DISPUTE RESOLUTION

APPENDIX A
LOG OF TRANSPORT 2020 PROJECT MANAGEMENT PLAN REVISIONS

Date of Revision	Affected Section	Revision Description	Reason for Revision

11.0 NEPA Scoping

11.0 NEPA Scoping

FTA's May 2006 *Guidance on New Starts Policies and Procedures* requires a project to have progressed beyond the National Environmental Policy Act (NEPA) scoping phase before entering into New Starts preliminary engineering. Two scoping meetings for Transport 2020 were held on April 26, 2006. All interested individuals, organizations, businesses, and federal, state, and local agencies were invited to comment on the purpose and need, project alternatives and scope of the Draft Environmental Impact Statement (DEIS). This input process was divided into two related meetings.

First, an Agency Scoping Meeting comprised of representatives from federal, state, and municipal agencies were provided with a presentation on the Transport 2020 study effort and alternatives considered, a bus tour of the study corridor, and opportunity to ask questions and provide comments.

Second, a Public Scoping Meeting was conducted in an open house format which included both a formal presentation as well as study team representatives available to answer questions. Participants were encouraged to fill out a comment form on the range of alternatives considered, issues to be addressed, and the study process itself.

Contributions to the scoping process from environmental stakeholders were included in the scoping report, which is included at the end of this section.

In addition to the scoping meetings, planning for Transport 2020 has provided for ongoing public involvement in the development and screening of alternatives. Following is a list of major meetings held since the April 2006 scoping meetings:

Public Meetings

- Neighborhood workshops (September 26 and 27, 2006)
- Public information meeting (May 3, 2007)

Stakeholder Meetings

- Land use workshop with local developers and planning staff (May 11 and 12, 2006)
- Project open house (September 6 and 7, 2006)
- Wisconsin and Southern Railroad (May 26, July 13, September 25, 2006)
- Wisconsin Department of Transportation (July 26, 2006)

- Wisconsin Commissioner of Railroads (July 26, 2006)
- Meriter Hospital (August 17, 2006)
- Rotary Club (August 30, 2006)
- Downtown Madison, Inc. (September 6, 2006)
- Greater Madison Chamber of Commerce (October 19, 2006)
- East Isthmus Neighborhood Planning Council (October 19, 2006)
- Local planners, developers, and land use experts (Fall 2006)
- UW Hospitals (August 2006, January 9, 2007)
- Local government meeting/Sun Prairie and Fitchburg) (February 19, 2007)

Study Oversight Committee

- Implementation Task Force Meetings (January 26- present, nearly monthly basis). At each meeting, an opportunity is provided for public comment.
- Transit Operations Subcommittee (March 15, June 19, July 12, September 6, November 2, December 7, 2006 and February 21, 2007)
- Finance and Governance Subcommittee (March 1, 23, 29, May 10, August 3, September 5, 2006 and April 10, 2007)

Additionally ongoing opportunities for public involvement include a project web site to provide updates on Transport 2020 and its progress, available at www.transport2020.net.

12.0 Support for Transport 2020

12.0 Transport 2020 Support

Rail service in the Transport 2020 corridor has significant support from local elected officials; business groups; economic development interests; community leaders; and private citizens. This section summarizes the support for the project, including copies of the resolutions that outline the principles underlying the Regional Transportation Authority (RTA), a summary of comments received from project outreach efforts, and other support expressed for the project.

■ 12.1 Resolutions

Resolutions were adopted in late summer 2007 by Dane County Board of Supervisors, City of Madison Common Council, the Madison Area Transportation Planning Board (MPO), and the elected bodies of the Cities of Middleton and Fitchburg, and the Village of Shorewood Hills. These resolutions demonstrate strong local support for the expansion of multi-modal public transit in the Madison Metropolitan area, the adoption of state legislation that will enable the formation of the RTA, and the implementation of a half-cent regional sales tax to pay for transportation improvements. Additionally, on September 5, 2007, the Madison Area Transportation Planning Board (TPB) adopted a resolution in support of the Transport 2020 LPA described in this New Starts submittal. Copies of these resolutions are provided at the end of this section.

■ 12.2 Comments at Public Meetings

Comments received at the scoping and public meetings were overwhelmingly - over 94 percent - in favor of the Transport 2020 project. The number of attendees and of comments received at each of these two meetings held in April and May 2007, respectively, are presented in Table 12.1. A total of 102 comments were received, of which 96 expressed support for the project.

Table 12.1 Transport 2020 Scoping and Public Meeting Comments

Meeting	Date	Attendance	Comments Received
Scoping Meeting (Agency and Public)	April 28, 2007	120	43
Public Information Meeting	May 3, 2007	100	59
Total		220	102

■ 12.3 Other Support

There is other considerable support for Transport 2020 and the new organizational structure and revenue source needed to implement it. An October 2007 survey found that roughly two-thirds of respondents support the establishment of an RTA. And most recently, the editorial board of the *Wisconsin State Journal* identified Transport 2020 as one of five priorities it will focus on in 2008.

Notes: 1 Registrant(s) in support not wishing to speak.
Due back at the 7/17/07 Common Council Meeting.

2	Mayor's Office	07/17/2007	Fiscal Note Required / Approval	Comptroller's Office/Approval Group		07/17/2007	
2	Comptroller's Office/Approval Group	07/17/2007	Approved Fiscal Note By The Comptroller's Office (SUBSTITUTES)	Mayor's Office		07/17/2007	

Notes: Knepp

2	COMMON COUNCIL	07/17/2007	Refer	TRANSPORT 2020 IMPLEMENTATION TASK FORCE	08/07/2007	07/18/2007	Pass
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Notes: 1 Registrant(s) in support wishing to speak; 1 Registrant(s) in opposition wishing to speak.

Additional Referral(s): Transit and Parking Commission, Long Range Transportation Planning Commission, Long Range Metropolitan Planning Ad-Hoc Committee, Common Council Meeting 8/7/07.

2	TRANSPORT 2020 IMPLEMENTATION TASK FORCE	07/17/2007	Refer	TRANSIT AND PARKING COMMISSION	08/07/2007	07/19/2007	
2	TRANSPORT 2020 IMPLEMENTATION TASK FORCE	07/17/2007	Refer	LONG RANGE TRANSPORTATION PLANNING COMMISSION	08/07/2007	07/19/2007	
2	TRANSPORT 2020 IMPLEMENTATION TASK FORCE	07/17/2007	Refer	LONG RANGE METRO TRANSIT PLANNING AD HOC COMMITTEE	08/07/2007	07/23/2007	

3	TRANSPORT 2020 IMPLEMENTATION TASK FORCE	07/18/2007	RECOMMEND TO COUNCIL TO ADOPT - REPORT OF OFFICER				Pass
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Notes: Jesse Kaysen commented that specific language on the type of transit service be clarified to emphasize the funding of Metro Transit system, inclusive of ADA complementary paratransit service. She asked that the fifth resolved clause be modified to read as follows:

"BE IT FURTHER RESOLVED, that a Regional Transportation Authority would be a comprehensive, countywide, regional transportation system, which would provide transportation infrastructure to the entire region, with funding to be apportioned as follows; 33% for the first phase of Transport 2020, 25% for Metro Transit Service (including ADA-complementary paratransit) Busses, 25% for town, village, city and county road maintenance, and 17% for Paratransit services, Rail and Bus enhancements, and Bicycle Facilities; and"

Lori Kay asked that "University of Wisconsin-Madison" be explicitly spelled out in the resolution (two locations on page 2).

Dick Wagner/Kristine Euclide moved to recommend approval of the resolution, and to reflect Ms. Kaysen's and Ms. Kay's suggested language.

Chairman McDonnell asked for a motion to support the resolution. Nine members voted in approval of the resolution, one member voted against the approval of the resolution and two members abstained from voting.

2	TRANSIT AND PARKING COMMISSION	07/19/2007	Return to Lead with the Recommendation for Approval	TRANSPORT 2020 IMPLEMENTATION TASK FORCE		07/18/2007	Pass
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Verbose Action:

McCabe asked if the resolution could be amended to incorporate the recommendations of Transport 2020, as follows:

- Add "-Madison" to the two references made to the "University of Wisconsin".
- In the paragraph referring to funding apportionment, the reference made to "Madison Transit Busses" should be changed to say "Madison Transit Services".

She and other members also expressed concerns that the specific percentages in the funding apportionment could limit future options. Along with raising these issues, Durocher had early stated his reservations about the development of a "transportation authority" that included funding for roadways, as opposed to the development of a "transit authority" specific to funding transit.

Webber suggested that these recommendations and concerns be noted in the Action Note of the Legislative File, rather than creating a substitute with specific language changes. She said that Action Note would clearly reflect the intention of the TPC to the City Council without making permanent changes to the resolution at an early stage in the process.

Wong, seconded by Hoag, moved to recommend adoption of the resolution, but adding the suggested changes and expressing the stated concerns in its recommendations to the Council.

Notes: *TPC members made the following recommendations:*

- * *Add "-Madison" to the two references made to the "University of Wisconsin".*
- * *In the paragraph referring to funding apportionment, the reference made to "Madison Transit Busses" should be changed to say "Madison Transit Services".*

Some members also expressed concerns that the specific percentages in the funding apportionment could limit future options.

Members also expressed reservations about the development of a "transportation authority" that includes funding for roadways as opposed to the development of a "transit authority" specific to funding transit.

2	LONG RANGE TRANSPORTATION PLANNING COMMISSION	07/19/2007	Return to Lead with the Following Recommendation(s)	TRANSPORT 2020 IMPLEMENTATIO N TASK FORCE	07/18/2007	Pass
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Notes: *Sup. Al Matano suggested the following modification to the first "whereas" clause on the second page:*

"WHEREAS, the City of Madison will continue to support efforts to expand the Madison Metro Bus System to outlying cities and villages within Dane County, such as, but not limited to Monona, Sun Prairie, Waunakee, Stoughton and Cross Plains; and"

Mike Rewey suggested modifying the fifth "resolved" clause to read:

"BE IT FURTHER RESOLVED, that a Regional Transportation Authority would be a comprehensive, countywide, regional transportation system, which would provide transportation infrastructure to the entire region, with funding to be apportioned as follows; 33% for the first phase of Transport 2020, 25% for Metro Transit Services Busses, 25% for town, village, city and county road maintenance, and 17% for Paratransit services, Rail and Bus enhancements, and Bicycle Facilities; and"

Rewey also supported the Transport 2020 Implementation Task Force recommendation to add "-Madison" to UW references in the resolution.

The LRTPC then unanimously recommend approval of resolution ID 06762, with the amendments noted above, on a motion submitted by Judy Bowser/Bob Schaefer.

2	LONG RANGE METRO TRANSIT PLANNING AD HOC COMMITTEE	07/23/2007	Return to Lead with the Following Recommendation(s)	TRANSPORT 2020 IMPLEMENTATIO N TASK FORCE	07/18/2007	Pass
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Verbose Action: The Committee discussed the RTA resolution introduced by both the County and the City. There was consensus at the last Funding Subcommittee meeting that they would recommend approval of the RTA resolution. DeVos was unable to attend that Subcommittee meeting and would not have voted to support the resolution. She said she would abstain from voting at this meeting on the issue. She strongly supports enabling legislation and is glad that the County Executive and Mayor have come to an agreement. However, she doesn't support Transport 2020's plan and feels they neglect bus service. She doesn't like the idea that the Mayor and County Executive would agree how to split funds. The boundaries and other issue of an RTA haven't been adequately discussed. She feels this resolution is premature.

Rhodes-Conway said this is a City resolution expressing City support. The County is doing something similar. Other municipalities can take this up to express whether or not they support this issue. This Committee can amend the resolution before sending it back. Rhodes-Conway said she is generally in favor of the resolution, but there are places the language could be better for Metro. DuRocher moved that the clause saying that 25% of funding would go for "Metro Transit buses" be amended to read "Metro Transit services." Rhodes-Conway seconded. Lunsway thought that language might also limit flexibility. Kamp said that if the phrase "transit services" were used, that would include depreciation, which would allow Metro to purchase buses. The vote was 7 in favor; DeVos abstained. The motion carried.

Rhodes-Conway moved and Wilberg seconded that the phrase "and improve service in the existing service area" be added so that the resolution showed support to not only expand Metro service, but also to improve existing service. The vote was 7 in favor; DeVos abstained. The motion carried.

DuRocher moved that wherever the resolution said "University of Wisconsin", UW-Madison should be specified. Rhodes-Conway seconded. Opitz made a friendly amendment (DuRocher accepted) that all references to the City transit utility to be standardized as Metro Transit. Joel Plant from the Mayor's office said that the Long Range Transportation Planning Commission recommended changing a WHEREAS clause talking about expansion to outlying cities to say "outlying cities and villages". Opitz made another friendly amendment (DuRocher accepted) to add "and municipalities" after cities to be more inclusive. The vote was 7 in favor; DeVos abstained.

The Committee then discussed the entire resolution. DuRocher explained that he would abstain from voting in order to be able to continue talking about a number of concerns in the draft language. Heifetz said that at the Funding Subcommittee meeting, the group was just endorsing the general substance, not every word. There is a lot to be discussed and decided outside of this committee. He felt it was time for the resolution to go forward, and there would be time to comment on further developments later. Sanborn also said he would not support this the resolution. Commuter rail and the sales tax increase were some of the many reasons. He felt the area would never have the ridership for commuter rail. He also felt there would not be dollar for dollar offset in the property tax levy, so this is a big tax burden for the citizens of the city and county.

Rhodes-Conway said that whether or not the Committee voted to move the resolution forward, it might be possible for the Committee's interim report to express some concerns in a written fashion. She hoped the Committee was advocating from the perspective of the bus system. She felt that was a very important voice in the debate, which had not yet been heard sufficiently. Rhodes-Conway said she would support the resolution, although she did have concerns. She hoped to have a way to address her reservations, perhaps through the Committee report or public input process.

Notes: *The Long Range Metro Transit Planning Ad Hoc Committee recommended that resolution file #06762 pass with the following changes:*

- *"Metro Transit" should be used as the name of the City transit utility throughout the resolution.*
- *References to the University of Wisconsin should specify "University of Wisconsin - Madison" throughout the resolution.*

The clauses below should add the following language as indicated:

- *In the WHEREAS clause, add the word "municipalities" to be more inclusive*
- *In the WHEREAS clause, add the phrase "and to improve service in the existing service area" so that a focus will be put on not only expanding Metro Transit service, but also improving existing service*
- *In the BE IT FURTHER RESOLVED clause, say that 25% of funding will go to Metro Transit "services" rather than buses*

WHEREAS, the City of Madison will continue to support efforts to expand the Madison Metro Transit Bus System to outlying cities and municipalities within Dane County, such as, but not limited to

Monona, Sun Prairie, Waunakee, Stoughton and Cross Plains; and to improve service in the existing service area; and

BE IT FURTHER RESOLVED, that a Regional Transportation Authority would be a comprehensive, countywide, regional transportation system, which would provide transportation infrastructure to the entire region, with funding to be apportioned as follows; 33% for the first phase of Transport 2020, 25% for Metro Transit Services, 25% for town, village, city and county road maintenance, and 17% for Paratransit services, Rail and Bus enhancements, and Bicycle Facilities; and

Absent: Thomas
 Excused: White, Clarke and Aulik
 Aye: Opitz, Heifetz, Wilberg, Lunsway and Rhodes Conway
 No: Sanborn
 Abstain: Durocher and De Vos

3	Department of Planning and Community and Economic Development	08/01/2007	Fiscal Note Required / Approval	Comptroller's Office/Approval Group	08/01/2007	08/01/2007	
3	Comptroller's Office/Approval Group	08/01/2007	Approved Fiscal Note By The Comptroller's Office (SUBSTITUTES)	TRANSPORT 2020 IMPLEMENTATION TASK FORCE		08/01/2007	
	Notes:	Bohrod					
3	COMMON COUNCIL	08/07/2007	Refer to a future Meeting to Adopt		09/04/2007		Pass
	Notes:	1 Registrant(s) in opposition wishing to speak; 1 Registrant(s) in support not wishing to speak.					
		Adopt at the 9/4/07 Common Council Meeting.					
3	COMMON COUNCIL	09/04/2007	Adopt With Amendment(s)				Pass
	Notes:	5 Registrant(s) in support wishing to speak; 4 Registrant(s) in opposition wishing to speak; 23 Registrant(s) in support not wishing to speak; 1 Registrant(s) in opposition not wishing to speak.					
		Aye:	18	Konkel, Cnare, Verveer, Webber, Rummel, Brandon, Judge, Skidmore, Solomon, Gruber, Rhodes Conway, Kerr, Bruer, Palm, Clausius, Schumacher, Clear and Pham-Remmele			
		No:	2	Sanborn and Compton			
		Non Voting:	1	Cieslewicz			
3	COMMON COUNCIL	09/04/2007	Adopt the following amendment				Pass
	Verbose Action:	: WHEREAS, it is anticipated that a significant portion of the proposed RTA sales tax revenue would be used to substantially offset the City of Madison property tax levy as well as expand Metro service to other communities in Dane County.					
		Aye:	12	Sanborn, Cnare, Brandon, Skidmore, Solomon, Kerr, Bruer, Palm, Compton, Clausius, Schumacher and Pham-Remmele			
		No:	8	Konkel, Verveer, Webber, Rummel, Judge, Gruber, Rhodes Conway and Clear			
		Non Voting:	1	Cieslewicz			
4	COMMON COUNCIL	09/04/2007	Move the Previous Question				Fail
	Verbose Action:	(2/3 vote required).					
		Aye:	13	Cnare, Verveer, Webber, Rummel, Skidmore, Bruer, Solomon, Gruber, Kerr, Rhodes Conway, Judge, Clausius and Clear			
		No:	7	Sanborn, Konkel, Brandon, Palm, Compton, Schumacher and Pham-Remmele			
		Non Voting:	1	Cieslewicz			
4	COMMON COUNCIL	09/04/2007	Adopt the following amendment				Pass
	Verbose Action:	: strike "for Commuter Rail" in the first "BE IT FURTHER RESOLVED" clause.					
		Absent:	1	Rummel			
		Aye:	13	Sanborn, Cnare, Brandon, Palm, Skidmore, Bruer, Solomon, Kerr, Compton, Clausius, Schumacher, Clear and Pham-Remmele			
		No:	6	Konkel, Verveer, Webber, Gruber, Rhodes Conway and Judge			

Non Voting: 1 Cieslewicz

Text of Legislative File 06762

..Fiscal Note

This policy resolution has no direct budgetary implications.

..Title

AMENDED SECOND SUBSTITUTE - Supporting ~~the creation of a Regional Transportation Authority that enables~~ the expansion of multi-modal public transit in the Madison ~~m~~Metropolitan area and ~~supporting~~ State legislation that ~~would~~ enables the formation of ~~a~~ Regional Transportation Authority~~ies~~.

..Body

WHEREAS, the Madison ~~m~~Metropolitan area has experienced marked population growth in recent years, estimated at 23 percent since 1990 by the U.S. Census Bureau, putting increased pressure on the region's transportation network and many travel corridors; ~~and~~

WHEREAS, it is anticipated that a significant portion of the proposed RTA sales tax revenue would be used to substantially offset the City of Madison property tax levy as well as expand Metro service to other communities in Dane County.

~~WHEREAS, efficient transportation is essential if the City of Madison and Dane County are to meet their community and economic development goals and maintain the region's high quality of life; and~~

~~WHEREAS, traffic congestion affects thousands of commuters from the City of Madison and other Dane County communities who must travel to and from work and other destinations; and~~

~~WHEREAS, the travel corridor through the Isthmus, the heart of the greater Madison metropolitan area, has experienced increasing traffic congestion, safety problems and pedestrian and bicycle challenges; and~~

~~WHEREAS, almost two-thirds of the county's population lives in the area being studied by Transport 2020, 80 percent work there, and the study area also includes many of the region's largest cultural and special events destinations; and~~

~~WHEREAS, roadway expansion in the Isthmus is not feasible due to costs, impacts and neighborhood concerns; and~~

~~WHEREAS, Dane County, the City of Madison and area communities have been working cooperatively for several years on regional transportation issues; and~~

~~WHEREAS, Transport 2020 has been investigating options for improving transportation for all people who use and depend on this important regional travel corridor; and~~

~~WHEREAS, an initial route has been designated for commuter rail running from Middleton to Reiner Road in the Town of Sun Prairie; and~~

~~WHEREAS, the City of Madison has made a significant investment in mass transit through the Madison Metro Transit bus system, which serves not only the city but also several of the adjacent communities, as well as users of park and ride services from a larger geographic area; and~~

~~WHEREAS, area communities and the County have cooperated for many years in the Metropolitan Planning Organization (MPO), which is the designated policy body responsible for cooperative, comprehensive regional transportation planning and decision making for the Madison metropolitan area; and~~

~~WHEREAS, current problems with the existing structure for providing transit service include: integration of public mass transit services provided by different municipalities; coordination of city paratransit and County specialized transportation services; and coordination of Metro fixed route and shared ride taxi services; and~~

~~WHEREAS, the City of Madison will continue to support efforts to expand the Madison Metro Transit Bus System to outlying cities municipalities within Dane County, such as, but not limited to Monona,~~

~~Sun Prairie, Waunakee, Stoughton and Cross Plains and will continue to support efforts to improve services in the existing service area; and~~

~~WHEREAS, because of the inter-relationships of many of these key transportation issues, the need to carry out planning at a regional level, and the need to develop adequate funding sources on a broader level, the County needs to create a regional transportation entity; and~~

~~WHEREAS, The University of Wisconsin-Madison, Downtown Madison, Inc. and the Greater Madison Chamber of Commerce have expressed support for joint regional efforts for transit improvements;~~

~~WHEREAS, other communities around the state also seek to have new tools for regional transit, and the Alliance of Cities and the Wisconsin Counties Association, among others, are supporting efforts for enabling legislation for local areas;~~

~~NOW, THEREFORE, BE IT RESOLVED, the City of Madison, by way of this resolution, hereby affirms our commitment to legislation at the state level that would enable the formation of Regional Transportation Authorities; and~~

~~BE IT FURTHER RESOLVED that the City of Madison hereby supports **endorses** the work of the Transport 2020 Implementation Task Force, including its recent selection of a phase I corridor or minimal operating segment and urges Transport 2020 to move forward **into preliminary engineering, including submitting a New Starts Application for Commuter Rail** to the Federal Transportation Administration when the application is ready; with its work; and~~

~~**BE IT FURTHER RESOLVED, that the City of Madison recognizes that to fully serve the transit needs of the Madison Metropolitan Area, any local Regional Transportation Authority shall include participation by the City of Madison, Dane County, other local municipalities from throughout Dane County, and community partners including the University of Wisconsin-Madison and the Madison Area Metropolitan Planning Organization; and**~~

~~BE IT FURTHER RESOLVED, that the Regional Transportation Authority enabling legislation shall allow for up to but no more than a half-cent sales tax, which would go to the citizens for a countywide referendum and would be contingent on receiving federal transit funds; and~~

~~**BE IT FURTHER RESOLVED, that a Regional Transportation Authority would be a comprehensive, countywide, regional transportation system, which would provide transportation infrastructure to the entire region, with funding to be apportioned as follows; 33% for the first phase of Transport 2020, 25% for Metro Transit Busses, services 25% for town, village, city and county road maintenance, and 17% for Paratransit services, Rail and Bus enhancements, and Bicycle Facilities; and**~~

~~**BE IT FURTHER RESOLVED, that the City of Madison and Dane County will work together to support Federal Transportation Administration applications for bus and rail enhancements, when those applications are ready, starting with the New Starts Application for Commuter Rail, as recommended by the Transport 2020 process, to be submitted to the Federal Transportation Administration by the end of summer 2007; and**~~

~~**BE IT FURTHER RESOLVED, upon adoption of a Regional Transportation Authority, the City of Madison agrees to work with neighboring communities on the expansion of Madison Metro Transit Bus service both to neighboring communities and within the City of Madison; and**~~

~~NOW, THEREFORE, BE IT RESOLVED that the City of Madison Common Council hereby supports the creation of a Regional Transportation Authority that enables the expansion of multi modal public transit in the Madison metropolitan area; and~~

~~BE IT FURTHER RESOLVED that the City of Madison requests, by way of this resolution, and makes a part of its legislative agenda, legislation at the state level that would enable the formation of Regional Transportation~~

Authorities; and

~~BE IT FURTHER RESOLVED that the City of Madison Common Council recognizes that to fully serve the transit needs of the Madison metropolitan area, any local Regional Transportation Authority should include participation by the City of Madison, Dane County, other local municipalities and community partners including the University of Wisconsin and the Madison Area Metropolitan Planning Organization.~~

BE IT FURTHER RESOLVED that critical issues relating to governance and operating structure of a Regional Transportation Authority, including member representation and detailed funding allocation mechanisms, will have to be determined after consultation with community partners participating in the Regional Transportation Authority; and,

BE IT FINALLY RESOLVED that copies of this resolution be sent to Governor Jim Doyle, Dane County's state legislative delegation, Congresswoman Tammy Baldwin and U.S. Senators Russ Feingold and Herb Kohl.

RESOLUTION – LEGISLATIVE FILE NO. 06762
ADOPTED BY THE MADISON COMMON COUNCIL
SEPTEMBER 4, 2007

AMENDED SECOND SUBSTITUTE - Supporting the expansion of multi-modal public transit in the Madison Metropolitan area and State legislation that enable the formation of a Regional Transportation Authority.

FISCAL NOTE

This policy resolution has no direct budgetary implications.

WHEREAS, the Madison Metropolitan area has experienced marked population growth in recent years, estimated at 23 percent since 1990 by the U.S. Census Bureau, putting increased pressure on the region's transportation network and many travel corridors.

WHEREAS, it is anticipated that a significant portion of the proposed RTA sales tax revenue would be used to substantially offset the City of Madison property tax levy as well as expand Metro service to other communities in Dane County.

NOW, THEREFORE, BE IT RESOLVED, the City of Madison, by way of this resolution, hereby affirms our commitment to legislation at the state level that would enable the formation of Regional Transportation Authorities; and

BE IT FURTHER RESOLVED that the City of Madison hereby endorses the work of the Transport 2020 Implementation Task Force, including its recent selection of a phase I corridor or minimal operating segment and urges Transport 2020 to move forward into preliminary engineering, including submitting a New Starts Application to the Federal Transportation Administration when the application is ready;

BE IT FURTHER RESOLVED, that the Regional Transportation Authority enabling legislation shall allow for up to but no more than a half-cent sales tax, which would go to the citizens for a countywide referendum and would be contingent on receiving federal transit funds; and

BE IT FURTHER RESOLVED that critical issues relating to governance and operating structure of a Regional Transportation Authority, including member representation and detailed funding allocation mechanisms, will have to be determined after consultation with community partners participating in the Regional Transportation Authority; and,

BE IT FINALLY RESOLVED that copies of this resolution be sent to Governor Jim Doyle, Dane County's state legislative delegation, Congresswoman Tammy Baldwin and U.S. Senators Russ Feingold and Herb Kohl.

1 SUB. 2 TO RES. 57, 07-08

2
3 SUPPORTING THE EXPANSION OF MULTI-MODAL PUBLIC TRANSIT IN THE
4 MADISON METROPOLITAN AREA AND STATE LEGISLATION THAT ENABLES THE
5 CREATION OF A REGIONAL TRANSPORTATION AUTHORITY
6

7 The Madison Metropolitan Area has experienced marked population growth in
8 recent years, estimated at 23 percent since 1990 by the U.S. Census Bureau, putting
9 increased pressure on the region's transportation network and many travel corridors.

10
11 NOW, THEREFORE, BE IT RESOLVED that Dane County, by way of this
12 resolution, hereby reaffirms our commitment to legislation at the state level that would
13 enable the formation of Regional Transportation Authorities; and
14

15 BE IT FURTHER RESOLVED that Dane County hereby endorses the work of the
16 Transport 2020 Implementation Task Force, including its recent selection of a phase I
17 corridor or minimal operating segment, and urges Transport 2020 to move forward into
18 preliminary engineering, including submitting a New Starts Application for Commuter
19 Rail to the Federal Transportation Administration when that application is ready; and
20

21 BE IT FURTHER RESOLVED Regional Transportation Authority enabling
22 legislation should allow for up to but no more than a half-cent sales tax, which would go
23 to the citizens for a countywide referendum and would be contingent on receiving federal
24 transit funds; and
25

26 BE IT FURTHER RESOLVED that critical issues relating to governance and
27 operating structure of a Regional Transportation Authority, including member
28 representation and detailed funding allocation mechanisms, will have to be determined
29 after consultation with community partners participating in the Regional Transportation
30 Authority; and
31

32 BE IT FINALLY RESOLVED that copies of this resolution be sent to Governor
33 Jim Doyle, Dane County's state legislative delegation, Congresswoman Tammy Baldwin,
34 and U.S. Senators Russ Feingold and Herb Kohl.
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45 Adopted by the Dane County Board August 16, 2007.
46

Resolution TPB No. 6

**SUPPORTING THE LOCALLY PREFERRED ALTERNATIVE (LPA) OF THE
TRANSPORT 2020 ALTERNATIVES ANALYSIS STUDY
AND RECOMMENDING MOVING THE PROJECT FORWARD TO THE NEXT
PHASE OF PRELIMINARY ENGINEERING AND FINAL ENVIRONMENTAL
IMPACT STATEMENT (PE/FEIS)**

WHEREAS Federal law requires that the Madison Area Transportation Planning Board (TPB), as the federally designated Metropolitan Planning Organization (MPO) for the Madison Urban Area, shall be responsible for carrying out the metropolitan transportation planning process in cooperation with the Wisconsin Department of Transportation (WisDOT), operators of publicly owned transit services, and local officials; and

WHEREAS since 2000 the Madison Area TPB in cooperation with the City of Madison, Dane County, WisDOT, and others, has participated in a joint Alternatives Analysis study of transportation improvements for the East-West Corridor called Transport 2020, which was recommended in the previous long-range regional transportation plan for the metropolitan area, the *Vision 2020 Dane County Land Use & Transportation Plan*; and

WHEREAS the Transport 2020 Study Area was recommended due to the fact that:

1. The East-West Corridor area through the Isthmus has a concentrated, transit-supportive land use pattern containing 63% of the county's population and 80% of the employment, and includes the University of Wisconsin-Madison (UW-Madison) campus, and downtown Madison, the region's employment, cultural, and entertainment center.
2. The corridor is experiencing increasing traffic congestion and roadway capacity expansion in the corridor is not feasible due to costs and environmental and neighborhood impacts.
3. Downtown Madison and the East-West Corridor through the Isthmus are experiencing significant redevelopment with much more planned in the future.
4. Fixed-guideway transit service will provide a transportation option more competitive with the auto, increasing reliance on transit, and will support infill and redevelopment of the corridor, maintaining downtown Madison as the region's major activity center and expanding job-housing choices; and

WHEREAS the first phase of the Transport 2020 study resulted in a recommended two-tiered Locally Preferred Alternative (LPA) to be implemented over time, consisting of a "start up system" of a core commuter rail line in the existing rail right of way from the City of Middleton to East Towne Mall, express bus service, park-and-ride (PnR) facilities, and local bus service improvements, and a long-term "full system vision" of an expanded rail system, a downtown transit circulator, and expanded bus and PnR services; and

WHEREAS the Madison Area MPO, the previous MPO for the Madison Urban Area, adopted Resolution MPO No. 28 accepting the recommendations of the Phase 1 Transport 2020 report and recommending moving forward to the next steps of a Draft Environmental Impact Statement (DEIS) and preliminary engineering (PE); and

WHEREAS Phase 2 of the Alternatives Analysis study, which has provided a more detailed analysis and refinement of the LPA for the "start up system", is almost complete, and the intergovernmental Transport 2020 Implementation Task Force, which is overseeing the study, has recommended a new, refined LPA (Alternative 2A); and

WHEREAS this LPA features rail vehicles operating in the existing rail corridor running from Greenway Center in the City of Middleton just west of the USH 12/14 interchange through the Isthmus to Reiner Road just southwest of the City of Sun Prairie with changes and improvements in local bus service to complement the rail service; and

WHEREAS the LPA also features a two-track alignment from Shorewood Boulevard to Union Corners with trains operating on two overlapping routes in order to provide cost effective, frequent service to Madison's higher density core between the UW Hospitals & Clinics and Union Corners; and includes 17 proposed stations along the 16-mile corridor; and

WHEREAS this service design would provide 10-minute peak/20-minute off-peak headways in the core part of the corridor and 20-minute peak/40-minute off-peak headways on the outer ends of the corridor with a total of 70-72 daily trips on weekdays and 44 trips on Saturdays; and

WHEREAS later improvements to this start up system are anticipated to include extensions of the rail service, express bus service, additional park-and-ride facilities, and expanded local bus service; and

WHEREAS the current long-range regional transportation plan, *Regional Transportation Plan 2030 for the Madison Metropolitan Area & Dane County*, adopted by the previous MPO in November 2006 and reaffirmed by the Madison Area TPB in August 2007, carries forward the recommendation from the earlier plan to establish high capacity, fixed-guideway transit service in the East-West Corridor; and

WHEREAS the *Regional Transportation Plan 2030* recommends working to reach regional agreement on and implement the service improvement and finance/governance recommendations from the current Draft EIS phase of the Transport 2020 study;

NOW THEREFORE BE IT RESOLVED that the Madison Area TPB does hereby support the LPA recommended by the Transport 2020 Implementation Task Force as being consistent with the *Regional Transportation Plan 2030*; and

BE IT FURTHER RESOLVED that the Madison Area TPB recommends that the City of Madison, Dane County, WisDOT, UW-Madison, and other local units of government and agencies take all necessary steps to move the Transport 2020 project forward through the PE/Final EIS Phase of the project, including filing of a New Starts application to the Federal Transit Administration (FTA) for PE funding; and

BE IT FINALLY RESOLVED that the Madison Area TPB shall communicate this resolution to the FTA, Governor of the State of Wisconsin, Wisconsin State Legislature, and Wisconsin's Congressional Delegation.

Date Adopted

Chair

Resolution TPB No. 7

SUPPORTING STATE LEGISLATION THAT WOULD ENABLE THE FORMATION OF REGIONAL TRANSPORTATION AUTHORITIES AND SUPPORTING THE CREATION OF A LOCAL REGIONAL TRANSPORTATION AUTHORITY THAT ENABLES THE EXPANSION OF MULTI-MODAL PUBLIC TRANSIT IN THE MADISON METROPOLITAN AREA

WHEREAS the Madison Area Transportation Planning Board (TPB) is the designated Metropolitan Planning Organization (MPO) for the Madison Urbanized Area and is responsible for carrying out the metropolitan transportation planning process in cooperation with the State (Wisconsin Department of Transportation), operators of publicly owned transit services (City of Madison, for Metro Transit), and local officials; and

WHEREAS the Madison Area TPB in cooperation with the Wisconsin Department of Transportation (WisDOT), the City of Madison, Dane County, the University of Wisconsin-Madison and others, has participated in a joint transportation planning process called Transport 2020; and

WHEREAS Transport 2020 is an Alternatives Analysis project that evaluated transportation improvements that ranged from improvements to the existing roadway system to the initiation of new express bus services to Metro Transit's bus system and new passenger rail services; and

WHEREAS the Oversight Advisory Committee for the Transport 2020 project recommended a two-tiered Locally Preferred Alternative (LPA) to be implemented over time, consisting of a "start-up system" of a core commuter rail line in the existing rail right of way from the City of Middleton to East Towne Mall, express bus service, park-and-ride (PnR) facilities, and local bus service improvements, and a long-term "Full System Vision" of an expanded rail system, downtown transit circulator, and expanded bus and PnR services; and

WHEREAS Phase 2 of the Alternatives Analysis study provides a more detailed analysis and refinement of the LPA for the "start up system" and the intergovernmental Transport 2020 Implementation Task Force, which is overseeing the study, has recommended a new, refined LPA (Alternative 2A); and

WHEREAS this LPA features rail vehicles operating in the existing rail corridor running from Greenway Center in the City of Middleton just west of the USH 12/14 interchange through the Isthmus to Reiner Road just southwest of the City of Sun prairie with changes and improvements in local bus service to complement the rail service; and

WHEREAS later improvements to this start up system are anticipated to include extensions of the rail service, express bus service, additional park-and-ride facilities, and expanded local bus service; and

WHEREAS the adopted *Regional Transportation Plan 2030* recommends working to reach regional agreement on and implement the service improvement and finance/governance recommendations from the current Draft EIS phase of the Transport 2020 study; and

WHEREAS the Madison Area TPB approved Resolution TPB No. 6 supporting the LPA recommended by the Transport 2020 Implementation Task Force, found it consistent with the adopted *Regional Transportation Plan 2030*, and supported proceeding to move the Transport 2020 project forward through the PE/Final EIS Phase of the project, including filing of a New Starts application to the Federal Transit Administration (FTA) for PE funding; and

WHEREAS FTA has indicated that, as part of the New Starts application, the region must make progress on the governance and finance components of the project; and

WHEREAS the Transport 2020 Implementation Task Force has recommended the formation of a Regional Transportation Authority (RTA) as the appropriate management structure for the project with funding support from an increase in the countywide sales tax; and

WHEREAS state enabling legislation is required to form an RTA and implement an increase in the countywide sales tax;

NOW THEREFORE BE IT RESOLVED that the Madison Area Transportation Planning Board (TPB) does hereby support state legislation that would enable the formation of regional transportation authorities; and

BE IT FURTHER RESOLVED that Regional Transportation Authority enabling legislation should allow for up to but no more than a half-cent sales tax, which would go to the citizens of Dane County for a countywide referendum and would be contingent on receiving federal transit funds; and

BE IT FURTHER RESOLVED that any local Regional Transportation Authority should include participation by the City of Madison, Dane County, other local municipalities throughout Dane County, and community partners including the University of Wisconsin (Madison) and the Madison Area TPB; and

BE IT FURTHER RESOLVED that any local Regional Transportation Authority would be a comprehensive, countywide regional transportation agency/entity, which would provide regional transportation infrastructure and services to the entire region, with funding for: the Transport 2020 LPA “starter system”; Metro Transit bus service and complementary paratransit service; town, village, city and county road maintenance; Specialized Transportation services; and bicycle facilities; and

BE IT FURTHER RESOLVED that critical issues relating to governance and operating structure of a Regional Transportation Authority, including member representation and detailed funding allocation mechanisms, will have to be determined after consultation with community partners participating in the Regional Transportation Authority, including the City of Madison, the Dane County Towns Association and the Dane County Cities and Villages Association, before a countywide referendum is put forth to the citizens; and

BE IT FURTHER RESOLVED that any local Regional Transportation Authority have strong levels of coordination with the Madison Area TPB, the Wisconsin Department of Transportation (WisDOT), and Metro Transit, and that the coordination efforts be stipulated in a cooperative agreement between the parties similar to the cooperative agreement that currently exists between the MPO, WisDOT and Metro Transit; and

BE IT FURTHER RESOLVED that, at the appropriate time and following a public hearing, the Madison Area TPB as the Metropolitan Planning Organization (MPO) for the Madison Urban Area will need to amend the long-range *Regional Transportation Plan 2030 for the Madison Metropolitan Area and Dane County* to change Transport 2020’s LPA “starter system” from a study to a project that meets the financial constraint requirement of regional transportation plans; and

BE IT FINALLY RESOLVED that the Madison Area MPO shall communicate this resolution to the Governor of the State of Wisconsin, the Wisconsin State Legislature, and Wisconsin’s Congressional Delegation.

Date Adopted

Chair

RESOLUTION 2003-7

Supporting Request of Congresswoman Baldwin for Federal Funding for Transport 2020

WHEREAS: The Dane County Executive's Office and Madison Mayor's Office have requested support from surrounding municipalities concerning a federal funding request of Congresswoman Tammy Baldwin for the Transport 2020 project; and

WHEREAS: Transport 2020 presents a long-term vision for a new transportation system in Dane County, designed to improve mobility and help guide future growth and development in the region; and

WHEREAS: The first phase of Transport 2020's long-term transit vision, termed the "Start-Up System", includes a 13.2-mile commuter rail line as well as new express regional bus service, park and ride lots and improved local bus services; and

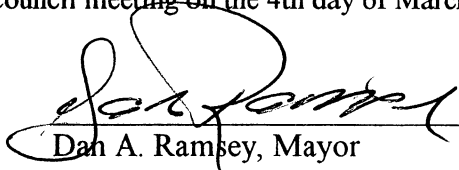
WHEREAS: The Dane County Board of Supervisors, Madison Common Council and Madison Area Metropolitan Planning Organization (MPO) have voted overwhelmingly to begin preliminary engineering on the "Start-Up System"; and

WHEREAS: The next steps in the project include conduct Preliminary Engineering (PE) work and fulfilling the requirements of the National Environmental Policy Act (NEPA) environmental documentation process. The PE/NEPA work is to begin in 2004 and is crucial to the implementation of Transport 2020; and

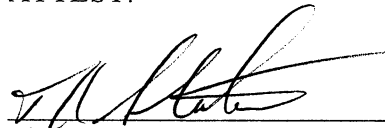
WHEREAS: The request for Congresswoman Baldwin's assistance is for recognition and support of the aforementioned project in the reauthorization of the Federal transportation program (TEA-21) and to secure federal funding to finance 50% of the \$256 million estimated project cost.

NOW, THEREFORE, BE IT RESOLVED that the Middleton Common Council supports Dane County's and the City of Madison's request of Congresswoman Tammy Baldwin for federal funding support of the Transport 2020 "Start-Up System" and acknowledges that Transport 2020 promises to foster strong relationships between and among local governments in Dane County, the University of Wisconsin, the business community, the Wisconsin Department of Transportation and the Federal Government.

This resolution was adopted at the regular Council meeting on the 4th day of March, 2003.


Dan A. Ramsey, Mayor

ATTEST:


Timothy R. Studer, Clerk

VOTE: Ayes: 8
Noes: 0

Resolution 2007—38

Supporting State Legislation That Enables The Creation Of A Regional Transportation Authority

Submitted by Alders Andy Lewis and Steve Leo, August 7, 2008

WHEREAS, the Madison metropolitan statistical area has experienced marked population growth in recent years, estimated at 23 percent since 1990 by the U.S. Census Bureau, putting increased pressure on the region's transportation network and many travel corridors; and

WHEREAS, efficient transportation is essential if the City of Middleton and Dane County are to meet their community and economic development goals and maintain the region's high quality of life; and

WHEREAS, population growth and energy costs will continue to rise, assuring us that only good planning will keep us from failing to meet transportation challenges; and

WHEREAS, Dane County, the City of Middleton, the City of Madison, and area communities have been working cooperatively for several years on regional transportation and economic development issues.

WHEREAS, Transport 2020 has been investigating options for improving transportation for all people who use the regional travel corridors, and

WHEREAS, the City of Middleton has already gone on record in support of federal assistance for the funding of Transport 2020 recommendations via resolution 2003-7, and

WHEREAS, the City of Middleton has been making an increased significant investment in mass transit through the Metro Transit bus system, which serves not only the city of Madison, but communities such as Middleton that are part of the Dane County Region, and

WHEREAS, Area communities and the County have cooperated for many years in the Metropolitan Planning Organization (MPO), which is the designated body responsible for cooperative, comprehensive regional transportation planning and decision making for the Madison Metropolitan Area, and

WHEREAS, Current problems with the existing structure for providing transit service include: integration of public mass transit services provided by different municipalities; coordination of city paratransit and county specialized transportation services; and coordination of metro fixed route and shared ride taxi services, and

WHEREAS, the inter-relationships of many of these key transportation issues need to carry out planning at a regional level, and the need to develop adequate funding sources on a broader level, the Madison Metropolitan Area needs to create a regional transportation entity, and

WHEREAS, other communities outside of Dane County also seek to have new tools for regional transit, and the Alliance of Cities and the Wisconsin Counties Association, among others, are supporting efforts for enabling legislation for local areas.

NOW, THEREFORE, BE IT RESOLVED, that the City of Middleton, by way of this resolution, affirms our commitment to legislation at the state level that would enable the formation of Regional Transportation Authorities; and

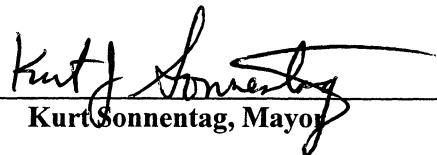
BE IT FURTHER RESOLVED that Middleton, reaffirms its support of the work of the Transport 2020 Implementation Task Force; and

BE IT FURTHER RESOLVED that Middleton recognizes that to fully serve the transit needs of the Madison Metropolitan Area, any local Regional Transportation Authority needs to include participation by the City of Middleton, City of Madison, the University of Wisconsin – Madison, Dane County, the Madison Area Metropolitan Planning Organization, and other local municipalities and community partners; and

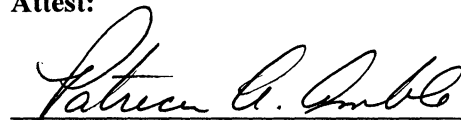
BE IT FURTHER RESOLVED, that the Regional Transportation Authority enabling legislation shall allow for up to, but no more than a half-cent sales tax, which would go to the citizens for a countywide referendum and would be contingent on receiving federal transit funds; and

BE IT FINALLY RESOLVED that copies of this resolution be sent to Governor Jim Doyle, Dane County's state legislative delegation, Congresswoman Tammy Baldwin, and U.S. Senators Russ Feingold and Herb Kohl.

Passed and adopted by the Common Council of the City of Middleton, Dane County, Wisconsin, this 7 day of August, 2007.


Kurt Sonntag, Mayor

Attest:


Patricia A. Amble, City Clerk

VOTE: Ayes: 8 Noes: 0

Resolution R - 2007 - 10

Village of Shorewood Hills, Dane County, Wisconsin

SUPPORTING THE EXPANSION OF MULTI-MODAL PUBLIC TRANSIT IN THE MADISON METROPOLITAN AREA AND STATE LEGISLATION THAT ENABLES THE CREATION OF A REGIONAL TRANSPORTATION AUTHORITY

WHEREAS, the Madison Metropolitan Area has experienced marked population growth in recent years, estimated at 23 percent since 1990 by the U.S. Census Bureau, putting increased pressure on the region's transportation network on many travel corridors and in the Village of Shorewood Hills, University Avenue in particular; and

WHEREAS, efficient transportation is essential if the Village of Shorewood Hills and Dane County are to meet their community and economic development goals and maintain the region's high quality of life; and

WHEREAS, traffic congestion affects thousands of commuters from the Village of Shorewood Hills, City of Madison, and other Dane County communities who must travel to and from work and other destinations; and

WHEREAS, the travel corridor on University Avenue through Shorewood Hills has experienced increasing traffic congestion, safety problems, and pedestrian and bicycle challenges; and

WHEREAS, continuing and anticipated redevelopment on University Avenue is creating or will create more pressures on transportation; and

WHEREAS, almost two-thirds of the county's population lives in the area being studied by Transport 2020, 80 percent work there, and the study area also includes many of the region's largest cultural and special events destinations; and

WHEREAS, roadway expansion on University Avenue is not feasible due to costs, impacts, and neighborhood concerns; and

WHEREAS, the Village of Shorewood Hills, Dane County, and area communities have been working cooperatively for several years on regional transportation issues; and

WHEREAS, Transport 2020 has been investigating options for improving transportation for all people who use this important regional travel corridor, including combinations of commuter buses, commuter rail, and park-and-ride lots, and the first phase of Transport 2020 recommended a "locally preferred alternative" comprised of commuter rail, expanded regional bus service, park-and-ride lots, and electric streetcars; and

WHEREAS, an initial route has been designated for commuter rail running from Middleton through Shorewood Hills to Reiner Road in the Town of Sun Prairie; and

WHEREAS, the City of Madison is studying other transportation alternatives, such as the use of streetcars; and

WHEREAS, the Village of Shorewood Hills, area communities and the County have cooperated for many years in the Metropolitan Planning Organization (MPO), which is the designated policy body responsible for cooperative, comprehensive regional transportation planning and decision making for the Madison Metropolitan Area; and

WHEREAS, current problems with the existing structure for providing transit service include: integration of public mass transit services provided by different municipalities; coordination of city paratransit and county specialized transportation services; and coordination of Metro fixed route and shared ride taxi services; and

WHEREAS, because of the inter-relationships of many of these key transportation issues, the need to carry out planning at a regional level, and the need to develop adequate funding sources on a broader level, the Madison Metropolitan Area needs to create a regional transportation entity; and

WHEREAS, other communities around the state also seek to have new tools for regional transit, and the Alliance of Cities and the Wisconsin Counties Association, among others, are supporting efforts for enabling legislation for local areas; and

WHEREAS, many outstanding matters need to be agreed upon by the Village including, but not limited to, rail stops, locations, safety considerations and funding mechanisms, however in order to move forward with transportation planning, enabling legislation is needed.

NOW, THEREFORE, BE IT RESOLVED that the Village of Shorewood Hills hereby generally supports the work of the Transport 2020 Implementation Task Force and urges Transport 2020 to move forward with its work; and

BE IT FURTHER RESOLVED that the Village of Shorewood Hills, by way of this resolution, hereby reaffirms our commitment to legislation at the state level that would enable the formation of Regional Transportation Authorities; and

BE IT FURTHER RESOLVED that the Village of Shorewood Hills recognizes that to fully serve the transit needs of the Madison Metropolitan Area, any local Regional Transportation Authority should include participation by the Village of Shorewood Hills, City of Madison, Dane County, other local municipalities, and community partners including the University of Wisconsin and the Madison Area Metropolitan Planning Organization; and

BE IT FINALLY RESOLVED that copies of this resolution be sent to Governor Jim Doyle, Senator Fred Risser, Rep. Spencer Black, Congresswoman Tammy Baldwin, and U.S. Senators Russ Feingold and Herb Kohl.

The foregoing resolution was duly adopted by the Board of Trustees of the Village of Shorewood Hills at a legal meeting on the 16th day of July 2007.

APPROVED: _____
Mark Sundquist, President

Attest: _____
Colleen Albrecht, Village Clerk

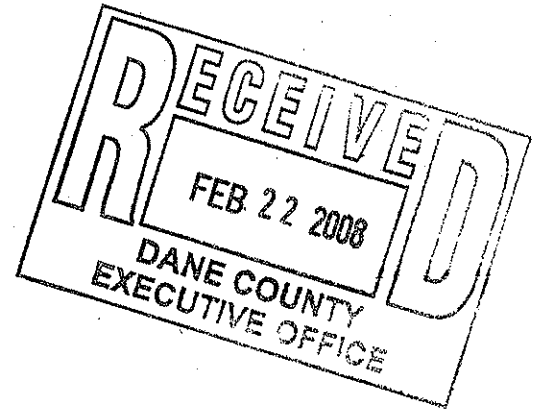
Health Care Main Street

February 1, 2008

Kathleen M. Falk
Dane County Executive
City County Building, Room 421
210 Martin Luther King Jr. Blvd
Madison, WI 53703

Mayor Dave Cieslewicz
City County Building, Room 403
210 Martin Luther King Jr. Blvd
Madison, WI 53703

Re: Multi-modal regional transit



Dear County Executive Falk and Mayor Cieslewicz:


Health Care Main Street, a partnership of Madison area health care providers, would like to express its strong support for the development of a comprehensive, multi-modal regional transit system that is accessible, attractive, and affordable. Such a system would not only enable us to continue to grow and develop health care facilities within Madison's central city and elsewhere, but would also increase our ability to improve the lives of current employees and recruit new employees.

All of the health care members of Health Care Main Street, which includes Dean Health System, Meriter Hospital, St. Mary's Hospital, and UW Health have principle locations in the Park Street and University Avenue corridors. Given the high cost of development, we face increasing challenges in our ability to grow and develop in order to continue to provide quality health care to residents of the South Central Wisconsin region. At the current going rate of \$25,000 to \$30,000 per space (structured parking) the need to provide adequate parking for staff, patients, and visitors contributes significantly to that high cost. If there were a comprehensive, multi-modal regional transit system, staff, visitors, and even some patients would use the system thereby reducing the need for parking as well as demands on other infrastructure

The health care sector is a significant contributor to the local economy. The Health Care Main Street medical provider members have a total combined workforce of over 18,000. Our employees live throughout the Madison metropolitan region. The availability of a wide range of transportation choices, especially those accessible to a 24/7 workforce, would improve the quality of their lives and increase our ability to recruit future employees.

Health Care Main Street would like to reiterate its strong support for a comprehensive, multi-modal regional transit system that is accessible, attractive, and affordable. The development of such a system within the next decade is an imperative to the future economic development of the Madison metropolitan region.

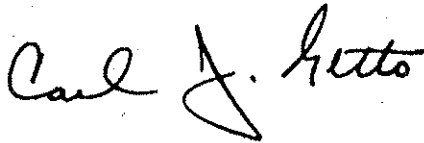
Sincerely,



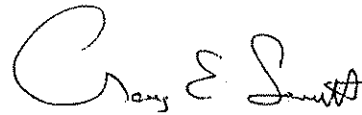
James Woodward
President & CEO, Meriter Health Services Inc.



Frank Byrne, MD
President & CEO, St. Mary's Hospital



Carl Getto, MD
Interim President & CEO, UW Hospital



Craig E. Samitt, MD, MBA
President & CEO, Dean Health Systems, Inc.



Jeffrey Grossman, MD
President & CEO, UW Medical Foundation

Cc: Representative Tammy Baldwin
Senator Russ Feingold
Senator Herb Kohl
Senator Fred Risser
Representative Mark Pocan
Representative Spencer Black
David Trowbridge, AICP, Transport 2020

Edgewood College Survey (10-8-07)

Dane County Survey results: 10\8
One-Way Frequencies
Results

#16. Madison mayor Dave Cieslewicz (CHESS-LEV-ITCH) and Dane County Executive Kathleen Falk have proposed the creation of a Regional Transportation Authority for the entire county to be funded by a half-cent increase in the sales tax. The money would be split between a regional commuter rail system, road maintenance, and improvements in bus service. Do you support this proposal?

- 1. YES
- 2. NO
- 8. DON'T KNOW
- 9. NO ANSWER

“Q16. Support Madison rapid transit?”

RTA	Frequency	Percent
YES	144	64.86
NO	78	35.14

Frequency Missing = 40

PROJECT DESCRIPTION TEMPLATE

PROJECT NAME:	Transport 2020	
Participating Agencies		
Lead Agency	Name	City of Madison
	Contact Person	David Trowbridge
	Address	Madison Municipal Building, Madison, WI 53703
	Telephone Number	(608) 267-1148
	Fax Number	(608) 267-8739
	Email	DTrowbridge@cityofmadison.com
Metropolitan Planning Organization	Name	Madison Area Transportation Planning Board
	Contact Person	Bob McDonald, Director
	Address	121 S. Pickney St., Madison, WI 53703
	Telephone Number	(608) 266-4518
	Fax Number	(608) 261-9967
	Email	mcdonald@ci.madison.wi.us
Transit Agency	Name	Metro Transit
	Contact Person	Chuck Kamp, General Manager
	Address	1101 E. Washington St., Madison, WI 53703
	Telephone Number	(608) 266-4904
	Fax Number	(608) 267-8778
	Email	ckamp@cityofmadison.com
State Department of Transportation	Name	Sandy Beaupre, Director, Bureau of Planning
	Contact Person	Wisconsin Department of Transportation
	Address	Hills Farm State Transportation Building, Madison, WI
	Telephone Number	(608) 266-7575
	Fax Number	(608) 267-0294
	Email	sandy.beaupre@dot.state.wi.us
Other Relevant Agencies	Name	Dane County
	Contact Person	Kathleen Falk, County Executive
	Address	City County Building, Madison, WI 53703
	Telephone Number	(608) 266-4114
	Fax Number	(608) 266-2643
	Email	falk@co.dane.wi.us
Other Relevant Agencies	Name	
	Contact Person	
	Address	
	Telephone Number	
	Fax Number	
	Email	
Other Relevant Agencies	Name	
	Contact Person	
	Address	
	Telephone Number	
	Fax Number	
	Email	

PROJECT DESCRIPTION TEMPLATE (Page 3)

Project Planning Dates	Base Year	Opening Year	Forecast Year	
		2014	2030	
Capital Cost Estimate	2007 constant dollars	\$	255	
	Year of Expenditure	\$	337	
Levels of Service	Headways	<i>Weekday Peak</i>	20 minutes	
		<i>Weekday Off-peak</i>	20 minutes	
		<i>Weekday Evening</i>	40 minutes	
		<i>Weekend</i>	40 minutes	
	Hours of Service	<i>Weekday</i>	6:00 a.m. - 11:30 p.m.	6:00 a.m. - 11:30 p.m.
		<i>Weekend</i>	8:00 a.m. - 10:00 p.m.	8:00 a.m. - 10:00 p.m.
Opening Year Travel Forecast		8,467		
Fare Policy Assumptions Used in Travel Forecasts [footnote 1]		\$0.70, consistent with current Metro Transit fare		
Project Planning and Development Schedule	Project Schedule			
	<i>Insert anticipated or actual dates/durations</i>			
	Planning Studies Initiated	1997		
	Planning Studies Completed	Fall 2007		
	LPA selected	Summer 2007		
	LPA included in the financially constrained long range plan	Spring 2008		
	Included in Financially Constrained TIP	Spring 2009		
	Initiation of DEIS	Jan-08		
	Completion of DEIS	Oct-09		
	Initiation of FEIS	Nov-09		
	Completion of FEIS	Feb-10		
	Public Referenda (where applicable)	2010		
	Preliminary Engineering (duration – dates of beginning and ending)	January 2009 - June 2010		
	Final Design (duration)	October 2010 - October 2011		
FFGA- submit request to award (duration)	September 2011 - March 2012			
Construction (duration)	April 2012 - July 2014			
Testing (duration)	July 2014 - January 2015			
Revenue Operations	2015			
Project Management				
Project Manager	Name	David Trowbridge, City of Madison		
	Address	Madison Municipal Building, Madison, WI 53703		
	Phone	(608) 266-4114		
	Fax	(608) 267-8739		
	Email	DTrowbridge@cityofmadison.com		
Agency CEO	Name	Chuck Kamp, General Manager, Metro Transit		
	Address	1101 E. Washington St., Madison, WI 53703		
	Phone	(608) 266-4904		
	Fax	(608) 267-8778		
Email	ckamp@cityofmadison.com			
Key Agency Staff: Overall New Starts Criteria	Name	David Trowbridge, City of Madison		
	Address	Madison Municipal Building, Madison, WI 53703		
	Phone	(608) 266-4114		
	Fax	(608) 267-8739		
	Email	DTrowbridge@cityofmadison.com		
Key Agency Staff: Ridership Forecasts	Name	Bob McDonald, Director		
	Address	121 S. Pickney St., Madison, WI 53703		
	Phone	(608) 266-4518		
	Fax	(608) 261-9967		
	Email	mcdonald@ci.madison.wi.us		
Key Agency Staff: Cost Estimates	Name	David Trowbridge, City of Madison		
	Address	Madison Municipal Building, Madison, WI 53703		
	Phone	(608) 266-4114		
	Fax	(608) 267-8739		
	Email	DTrowbridge@cityofmadison.com		

[1] Please summarize fare policy assumptions used for all regional transit services modeled in the forecast year. Attach this summary to the Project Description Template.

PROJECT DESCRIPTION TEMPLATE (Page 4)

Project Management (continued)

Key Agency Staff: Environmental Documentation	Name	David Trowbridge, City of Madison
	Address	Madison Municipal Building, Madison, WI 53703
	Phone	(608) 266-4114
	Fax	(608) 267-8739
	Email	DTrowbridge@cityofmadison.com
Key Agency Staff: Land Use Assessment	Name	David Trowbridge, City of Madison
	Address	Madison Municipal Building, Madison, WI 53703
	Phone	(608) 266-4114
	Fax	(608) 267-8739
	Email	DTrowbridge@cityofmadison.com
Key Agency Staff: Financial Assessment	Name	David Trowbridge, City of Madison
	Address	Madison Municipal Building, Madison, WI 53703
	Phone	(608) 266-4114
	Fax	(608) 267-8739
	Email	DTrowbridge@cityofmadison.com
Key Agency Staff: Project Maps	Name	David Trowbridge, City of Madison
	Address	Madison Municipal Building, Madison, WI 53703
	Phone	(608) 266-4114
	Fax	(608) 267-8739
	Email	DTrowbridge@cityofmadison.com
Contractors		
Current Prime Contractor	Name	HNTB Corporation
	Address	111 N. Canal St., Chicago, IL 60606
	Phone	(312) 930-9119
	Fax	(312) 930-9163
	Email	www.hntb.com
Prime Contractor: Project Manager	Name	Kenneth Kinney, HNTB
	Address	111 N. Canal St., Chicago, IL 60606
	Phone	(312) 930-9119
	Fax	(312) 930-9163
	Email	kkinney@hntb.com
Contractor Responsible for Travel Forecasts	Name	Kimon Proussaloglou, Cambridge Systematics, Inc.
	Address	115 South LaSalle St., Chicago, IL 60603
	Phone	(312) 346-9907
	Fax	(312) 346-9908
	Email	kproussaloglou@camsys.com
Contractor Responsible for Capital Cost Estimates	Name	Alan Tobias, HNTB
	Address	2900 South Quincy Street, Suite 200, Arlington, VA 22206
	Phone	(703) 253-5915
	Fax	(703) 671-6210
	Email	atobias@hntb.com

TRAVEL FORECASTS TEMPLATE

PROJECT NAME:		Transport 2020									
Line	Trip-Purpose-Specific Information	Source	Purpose 1	Purpose 2	Purpose 3	Purpose 4	Purpose 5	Post Model (4)	Purpose 7	Purpose 8	DAILY TOTAL
1	Daily transit trips, Baseline Alternative	Summit: table 30	14,328	1,453	13,323	4,106	2,052				35,262
2	Daily transit trips, Build Alternative	Summit: table 40	14,856	1,655	13,541	4,267	2,048				36,367
3	Daily person trips, Build Alternative	Summit: table 20	435,555	435,555	1,331,995	817,718	112,858				3,133,681
4	Daily hours of user benefits (UB)	Summit: table 70 / 60	557	282	241	78	-4	2,027			3,180
5	Positive UB hours from coverage changes	Summit: (tables 44+47+48) / 60	20	5	25	3	7,560				7,612
6	Daily hours of UBs changed by capping	Summit: capping impact / 60	-	-	-	-	-				0
7	Daily hours of UBs for transit dependents	Summit: standard report									0
Trip-Purpose-Specific Quality-Control Measures											
8	Daily new transit trips		528	202	218	161	-4	0	0	0	1,105
9	Daily new transit trips -- distribution (%)		48%	18%	20%	15%	0%	0%	0%	0%	100%
10	Daily user benefits -- distribution (%)		18%	9%	8%	2%	0%	64%	0%	0%	100%
11	Daily transit trips, Baseline Alternative -- distribution (%)		41%	4%	38%	12%	6%	0%	0%	0%	100%
12	Percent of user benefits lost to capping		0%	0%	0%	0%	0%	0%	0%	0%	0%
13	Percent of user benefits accruing to transit dependents		0%	0%	0%	0%	0%	0%	0%	0%	0%

Line	Special-Markets Information	Source	Market 1	Market 2	Market 3	Market 4	Market 5	Market 6	Market 7	Market 8	ANNUAL TOTAL
14	Special-market project trips per event-day	Special-market forecasts									0
15	Special-market UB hours per event-day	Special-market forecasts									0
16	Special-market pass-miles per event-day	Special-market forecasts									0
17	Annualization factor (event-days / year)	Special-market forecasts									---
Special-Markets Quality-Control Measures											
18	Annual new transit trips, special markets only -- distribution (%)		0%	0%	0%	0%	0%	0%	0%	0%	0%
19	Annual user benefits, special markets only -- distribution (%)		0%	0%	0%	0%	0%	0%	0%	0%	0%
20	Minutes of user benefits per project trip, special markets only		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Line	General Information	Source	Entry	General Information	Source	Entry	
21	Annualization factor (days/year)	Current/similar guideway	260	Person trips by transit dependents	Travel forecasts	0	
22	Daily project trips, no special mkts	Travel forecasts	10,980	Person trips (stratified trip purposes only)	Travel forecasts	2,596,526	
23	Daily project trips, transit dependents	Travel forecasts		Station-area employees (within 1/2 mile)	Linked from Land Use Template	89,557	
24	Daily project pass-miles, no special mkts	Travel forecasts	43,215	Station-area residents (within 1/2 mile)	Linked from Land Use Template	68,676	
25	Daily project pass-miles, tm dependents	Travel forecasts		Project length (miles)	Linked from Project Descrip Template	16.1	
General Quality Control Measures (Excluding Special Markets)			Value	General Quality Control Measures (Excluding Special Markets)			Value
26	Minutes of user benefits per daily project trip (before capping)		17.4	Daily project trips per station area employee		0.12	
27	Minutes of user benefits per daily project trip (after capping)		17.4	Daily project trips per station area resident		0.16	
28	Percent of user benefits that are coverage related		239%	Daily minutes of user benefits per station area employee		2.13	
29	Percent of user benefits that are off-model		0%	Daily minutes of user benefits per station area resident		2.78	
30	Percent of project trips that are new transit trips		10%				
31	Project average trip distance / project length		24%				

MOBILITY AND COST-EFFECTIVENESS TEMPLATE

PROJECT NAME: Transport 2020

Mobility Improvements

Line	Item	Column:	A	B	C	D	E	Source/Calculation
		Alternative		Difference	Annualization Factor	Annual Value		
		New Starts Baseline	New Starts Build					
1	Transit trips for model-based trip purposes		35,262	36,367	1,105	260.0	287,300	Linked from the Travel Forecasts template
2	Transit trips for special markets		---	---	---	---	0	Linked from the Travel Forecasts template
3	Transit trips total		---	---	---	---	287,300	Sum of lines 1 and 2
4	User benefits for model-based purposes (hrs)		---	---	3,180	260.0	826,813	Linked from the Travel Forecasts template
5	User benefits for special markets (hrs)		---	---	---	---	0	Linked from the Travel Forecasts template
6	User benefits total (hrs)		---	---	---	---	826,813	Sum of lines 4 and 5
7	Project trips for model-based trip purposes		---	---	10,980	260.0	2,854,800	Linked from the Travel Forecasts template
8	Project trips for special markets		---	---	---	---	0	Linked from the Travel Forecasts template
9	Project trips total		---	---	---	---	2,854,800	Sum of lines 7 and 8
10	Project passenger-miles for model-based trip purposes		---	---	43,215	260.0	11,235,900	Linked from the Travel Forecasts template
11	Project passenger-miles for special markets		---	---	---	---	0	Linked from the Travel Forecasts template
12	Project passenger-miles total		---	---	---	---	11,235,900	Sum of lines 10 and 11
13	User benefits per project pass-mile for all riders (mins)		---	---	---	---	4.4	Line 6 divided by line 12 (times 60 mins/hr)
14	User benefits for transit dependents		---	---	0	260.0	0	Linked from the Travel Forecasts template
15	Project trips by transit dependents		---	---	0	260.0	0	Linked from the Travel Forecasts template
16	Project passenger-miles by transit dependents		---	---	0	260.0	0	Linked from the Travel Forecasts template
17	User benefits per pass-mile for transit dependents		---	---	---	---	0.0	Line 14 divided by line 16 (times 60 mins/hr)
18	Share of UBs to transit dependents (percent)		---	---	---	---	0.0%	Line 14 divided by line 6
19	Share of person trips by transit dependents (percent)		---	---	---	---	0.0%	TF template cell L30 / TF template cell L31
20	Transit dependents: (share of UBs) / (share of pers-trips)		---	---	---	---	0.0%	Line 18 divided by line 19

Cost Effectiveness

Line	Item	Alternative		Difference	Value	Source/Calculation
		New Starts Baseline	New Starts Build			
21	Annualized capital cost (millions of constant 2007 dollars)	\$ 4	\$ 20	\$ 16	---	Source: SSC Worksheets
22	Total systemwide annual operating and maintenance cost (millions of constant 2007 dollars)	\$ 2	\$ 8	\$ 6	---	Source: O&M cost models (attach documentation).
23	Total annualized cost in forecast year (millions of constant 2007 dollars)	\$ 6	\$ 28	\$ 22	---	Sum of lines 21 and 22
24	Annual user benefits total (hours)	---	---	826,813	---	Line 6
25	Cost-Effectiveness: incremental annualized cost / annualized user benefits (\$/hour)	---	---	---	\$26.70	Line 23 divided by line 24
26	Total transit ridership	9,168,120	9,455,420	287,300		Linked from Travel Forecasts template
27	Cost Per New Transit Trip: incremental annualized cost / incremental annual transit trips (\$/new trip)				\$76.83	Line 23 divided by line 26

LAND USE (QUANTITATIVE) TEMPLATE

PROJECT NAME:	Transport 2020		
Population and Employment – Metropolitan Area, CBD, and Corridor			
Item	Base Year	Forecast Year 2030	Growth (%)
Metropolitan Area			
Total Population	426,511	581,249	36.3%
Total Employment	278,193	375,013	34.8%
Central Business District [see footnote 1]			
Total Employment	30,514	32,019	4.9%
Employment – Percent of Metropolitan Area	0.109686441	0.08538104	---
CBD Lane Area (sq. mi.)	0.9	0.9	
Employment Density (e.g., jobs per sq. mi.)	33,754	35,419	---
Corridor			
Total Population	161,471	189,058	17.1%
Total Employment	164,255	203,135	23.7%
Population – Percent of Metropolitan Area	38%	33%	---
Employment – Percent of Metropolitan Area	59%	54%	---
Corridor Land Area (sq. mi.)	68.8	68.8	---
Population Density (persons per sq. mi.)	2345.9	2746.7	---
Employment Density (jobs per sq. mi.)	2386.4	2951.3	---
Total All Station Areas (1/2-mile radius) [See footnote 2]			
Housing Units	28,121	33,310	18.5%
Population	59,123	68,676	16.2%
Employment	84,486	89,557	6.0%
Land Area (square miles)	10.4	10.4	---
Housing Unit Density (units per sq. mi.)	2714.4	3215.3	---
Population Density (persons per sq. mi.)	5706.9	6629.0	---
Employment Density (persons per sq. mi.)	8155.0	8644.5	---
Station Area 1 [See footnote 3.]	Station Name:	Middleton Route 12-14	
Housing Units	279	501	79.6%
Population	602	974	61.8%
Employment	1,404	2,300	63.8%
Land Area (square miles)	0.6	0.6	---
Housing Unit Density (units per sq. mi.)	457	821	---
Population Density (persons per sq. mi.)	987	1,597	---
Employment Density (persons per sq. mi.)	2,302	3,770	---
Station Area 2	Station Name:	Middleton	
Housing Units	844	1,009	19.5%
Population	1,994	2,373	19.0%
Employment	1,379	1,864	35.2%
Land Area (square miles)	0.5	0.5	---
Housing Unit Density (units per sq. mi.)	1,563	1,869	---
Population Density (persons per sq. mi.)	3,693	4,394	---
Employment Density (persons per sq. mi.)	2,554	3,452	---
Station Area 3	Station Name:	Hill Farms/ Whitney Way	
Housing Units	2,226	2,237	0.5%
Population	4,039	4,060	0.5%
Employment	2,586	2,586	0.0%
Land Area (square miles)	0.8	0.8	---
Housing Unit Density (units per sq. mi.)	2,968	2,983	---
Population Density (persons per sq. mi.)	5,385	5,413	---
Employment Density (persons per sq. mi.)	3,448	3,448	---
Station Area 4	Station Name:	Midvale Boulevard	
Housing Units	802	930	16.0%
Population	1,508	1,712	13.5%
Employment	4,006	4,112	2.6%
Land Area (square miles)	0.5	0.5	---
Housing Unit Density (units per sq. mi.)	1,485	1,722	---
Population Density (persons per sq. mi.)	2,793	3,170	---
Employment Density (persons per sq. mi.)	7,419	7,615	---
Station Area 5	Station Name:	Shorewood Boulevard	
Housing Units	912	929	1.9%
Population	1,917	1,946	1.5%
Employment	2,362	2,398	1.5%
Land Area (square miles)	0.5	0.5	---
Housing Unit Density (units per sq. mi.)	2,027	2,064	---
Population Density (persons per sq. mi.)	4,260	4,324	---
Employment Density (persons per sq. mi.)	5,249	5,329	---

LAND USE (QUANTITATIVE) TEMPLATE (page 2)

	Base Year	Forecast Year	Growth (%)
Station Area 6	Station Name: VA/UW Hospital		
Housing Units	1,310	1,318	0.6%
Population	2,619	2,634	0.6%
Employment	9,088	9,400	3.4%
Land Area (square miles)	0.7	0.7	---
Housing Unit Density (units per sq. mi.)	2,015	2,028	---
Population Density (persons per sq. mi.)	4,029	4,052	---
Employment Density (persons per sq. mi.)	13,982	14,462	---
Station Area 7	Station Name: Union South		
Housing Units	2,556	2,601	1.8%
Population	6,649	6,736	1.3%
Employment	11,603	11,657	0.5%
Land Area (square miles)	0.6	0.6	---
Housing Unit Density (units per sq. mi.)	4,057	4,129	---
Population Density (persons per sq. mi.)	10,554	10,692	---
Employment Density (persons per sq. mi.)	18,417	18,503	---
Station Area 8	Station Name: Kohl Center		
Housing Units	4,814	5,751	19.5%
Population	11,996	13,770	14.8%
Employment	15,869	16,738	5.5%
Land Area (square miles)	0.6	0.6	---
Housing Unit Density (units per sq. mi.)	7,765	9,276	---
Population Density (persons per sq. mi.)	19,348	22,210	---
Employment Density (persons per sq. mi.)	25,595	26,997	---
Station Area 9	Station Name: Monona Terrace		
Housing Units	3114	4541	45.8%
Population	5993	8454	41.1%
Employment	13463	13965	3.7%
Land Area (square miles)	0.5	0.5	---
Housing Unit Density (units per sq. mi.)	5,767	8,409	---
Population Density (persons per sq. mi.)	11,098	15,656	---
Employment Density (persons per sq. mi.)	24,931	25,861	---
Station Area 10	Station Name: Hancock		
Housing Units	1,652	2,283	38.2%
Population	3,220	4,304	33.7%
Employment	9,991	10,474	4.8%
Land Area (square miles)	0.4	0.4	---
Housing Unit Density (units per sq. mi.)	3,842	5,309	---
Population Density (persons per sq. mi.)	7,488	10,009	---
Employment Density (persons per sq. mi.)	23,235	24,358	---
Station Area 11	Station Name: Paterson		
Housing Units	1,426	2,032	42.5%
Population	2,740	3,777	37.8%
Employment	2,979	3,189	7.0%
Land Area (square miles)	0.5	0.5	---
Housing Unit Density (units per sq. mi.)	2,971	4,233	---
Population Density (persons per sq. mi.)	5,708	7,869	---
Employment Density (persons per sq. mi.)	6,206	6,644	---
Station Area 12	Station Name: Baldwin		
Housing Units	2,275	2,317	1.8%
Population	3,793	4,226	11.4%
Employment	1,942	2,199	13.2%
Land Area (square miles)	0.5	0.5	---
Housing Unit Density (units per sq. mi.)	4,375	4,456	---
Population Density (persons per sq. mi.)	7,294	8,127	---
Employment Density (persons per sq. mi.)	3,735	4,229	---
Station Area 13	Station Name: Atwood		
Housing Units	2,024	2,187	8.1%
Population	4,068	4,332	6.5%
Employment	2,075	2,109	1.6%
Land Area (square miles)	0.6	0.6	---
Housing Unit Density (units per sq. mi.)	3,551	3,837	---
Population Density (persons per sq. mi.)	7,137	7,600	---
Employment Density (persons per sq. mi.)	3,640	3,700	---

LAND USE (QUANTITATIVE) TEMPLATE (page 3)

	Base Year	Forecast Year	Growth (%)
Station Area 14	Station Name: Union Corners		
Housing Units	2,360	2,816	19.3%
Population	4,565	5,326	16.7%
Employment	1,821	1,736	-4.7%
Land Area (square miles)	0.7	0.7	---
Housing Unit Density (units per sq. mi.)	3,471	4,141	---
Population Density (persons per sq. mi.)	6,713	7,832	---
Employment Density (persons per sq. mi.)	2,678	2,553	---
Station Area 15	Station Name: Fair Oaks		
Housing Units	1,109	1,217	9.7%
Population	2,434	2,625	7.8%
Employment	1,508	1,686	11.8%
Land Area (square miles)	0.8	0.8	---
Housing Unit Density (units per sq. mi.)	1,440	1,581	---
Population Density (persons per sq. mi.)	3,161	3,409	---
Employment Density (persons per sq. mi.)	1,958	2,190	---
Station Area 16	Station Name: Lien Road		
Housing Units	399	609	52.6%
Population	932	1,351	45.0%
Employment	2,358	2,939	24.6%
Land Area (square miles)	0.8	0.8	---
Housing Unit Density (units per sq. mi.)	505	771	---
Population Density (persons per sq. mi.)	1,180	1,710	---
Employment Density (persons per sq. mi.)	2,985	3,720	---
Station Area 17	Station Name: Reiner Road		
Housing Units	19	32	68.4%
Population	54	76	40.7%
Employment	52	205	294.2%
Land Area (square miles)	0.8	0.8	---
Housing Unit Density (units per sq. mi.)	24	41	---
Population Density (persons per sq. mi.)	68	96	---
Employment Density (persons per sq. mi.)	66	259	---
Station Area 18	Station Name:		
Housing Units			0.0%
Population			0.0%
Employment			0.0%
Land Area (square miles)		0.0	---
Housing Unit Density (units per sq. mi.)	0	0	---
Population Density (persons per sq. mi.)	0	0	---
Employment Density (persons per sq. mi.)	0	0	---
Station Area 19	Station Name:		
Housing Units			0.0%
Population			0.0%
Employment			0.0%
Land Area (square miles)		0.0	---
Housing Unit Density (units per sq. mi.)	0	0	---
Population Density (persons per sq. mi.)	0	0	---
Employment Density (persons per sq. mi.)	0	0	---
Station Area 20	Station Name:		
Housing Units			0.0%
Population			0.0%
Employment			0.0%
Land Area (square miles)		0.0	---
Housing Unit Density (units per sq. mi.)	0	0	---
Population Density (persons per sq. mi.)	0	0	---
Employment Density (persons per sq. mi.)	0	0	---

- [1] Optionally, employment for the largest activity center(s) served by the New Start project may be reported.
- [2] See Appendix A for a sample methodology for estimating station area population, households, and employment.
- [3] Reporting of data by individual station area is required.

FINANCE TEMPLATE

PROJECT NAME:		Transport 2020	
Total Capital Cost of Project in Millions of Constant 2007 Dollars (from the SCC Main Worksheet)	\$255	Total Capital Cost of Project in Millions of YOE dollars (including finance charges, cost of PE and FD, and construction): (from SCC Main Worksheet)	\$337
Section 5309 New Starts Funding Anticipated (YOE \$):	\$187	Section 5309 New Starts Share of Project Cost:	55.4%
Estimated Cost of Preliminary Engineering (YOE \$):	\$6	Estimated Cost of Final Design (YOE \$):	\$12
Total Finance Charges Included in Capital Cost (include finance charges that are expected prior to either the revenue operations date or the fulfillment of the Section 5309 New Starts funding commitment, even if the financing charges are incurred by a funding partner that is not the project sponsor): (from SCC Main Worksheet)			\$13
Other Federal Capital Funding Sources			
(Non-5309 New Starts Funds such as FTA Section 5307, Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), Section 5309 Rail Modernization,	Type of Funds	Dollar Amount (millions of YOE dollars)	% of Total Capital Cost
1) Federal Pre-FFGA Funding	Earmarks	\$15	4.6%
2)			0.0%
3)			0.0%
4)			0.0%
State Capital Funding Sources			
(Funds provided by State agencies or legislatures such as bonds, dedicated sales tax, annual legislative appropriation, transportation trust funds, etc.)	Type of Funds	Dollar Amount (millions of YOE dollars)	% of Total Capital Cost
1) State Preliminary Engineering Contribution	DOT Appropriation	\$1	0.4%
2)			0.0%
3)			0.0%
4)			0.0%
Local Capital Funding Sources			
(Municipal, City, County, Township, or Regional funding such as bonds, sales tax, legislative appropriation, transportation trust funds, etc.)	Type of Funds	Dollar Amount (millions of YOE dollars)	% of Total Capital Cost
1) Share of RTA Sales Tax	Dedicated Tax	\$134	39.6%
2)			0.0%
3)			0.0%
4)			0.0%
Private Sector/In-kind match/Other			
(Donations of right-of-way, construction of stations or parking, or funding for the project from a non-governmental entity, business, or business assoc.)	Type of Funds	Dollar Amount (millions of YOE dollars)	% of Total Capital Cost
1)			0.0%
2)			0.0%
3)			0.0%
TOTAL NON-SECTION 5309 FUNDING (millions of YOE dollars)		\$150	44.6%
QA/QC CHECK: TOTAL CAPITAL COSTS LESS SECTION 5309 FUNDING LESS NON-SEC. 5309 FUNDING (SHOULD EQUAL		\$0	---

FINANCE TEMPLATE (page 2)

New Starts Project Financial Commitment			
Other Federal Sources (Linked from page 1)	Specify Whether New or Existing Funding Source	Specify Status of Funds -- Committed, Budgeted, or Planned (See notes below)	Identify Supporting Documentation Submitted to Verify Funding Source
1) Federal Pre-FFGA Funding	New	Planned	
2)			
3)			
4)			
State Sources (Linked from page 1)			
1) State Preliminary Engineering Contribution	Existing	Committed	
2)			
3)			
4)			
Local Sources (Linked from page 1)			
1) Share of RTA Sales Tax	New	Planned	Supporting resolutions from City of Madison and Dane
2)			
3)			
4)			
Private Sector/In-kind Match/Other (Linked from page 1)			
1)			
2)			
3)			

Reference Notes: The following categories and definitions are applied to funding sources:

Committed: Committed sources are programmed capital funds that have all the necessary approvals (legislative or referendum) to be used to fund the proposed project without any additional action. These capital funds have been formally programmed in the MPO's TIP and/or any related local, regional, or state CIP or appropriation. Examples include dedicated or approved tax revenues, state capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed project, and additional debt capacity that requires no further approvals and has been dedicated by the transit agency to the proposed project.

Budgeted: This category is for funds that have been budgeted and/or programmed for use on the proposed project but remain uncommitted, i.e., the funds have not yet received statutory approval. Examples include debt financing in an agency-adopted CIP that has yet to receive final legislative approval, or state capital grants that have been included in the state budget, but are still awaiting legislative approval. These funds are almost certain to be committed in the near future. Funds will be classified as budgeted where available funding cannot be committed until the Full Funding Grant Agreement (FFGA) is executed, or due to local practices outside of the project sponsor's control (e.g., the project development schedule extends beyond the TIP period).

Planned: This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, reasonable requests for state/local capital grants, and proposed debt financing that has not yet been adopted in the agency's CIP.

FINANCE TEMPLATE (page 3)

Innovative Financing Methods

(Unconventional sources of funding which may include TIFIA, State Infrastructure Banks, Public/Private partnerships, Toll Credits, revenue finance methods, etc.)

Innovative Funding Source	Anticipated Funding Amount	Identify Supporting Documentation Submitted

Summary Information from the Operating Finance Plan

New Starts Project Annual Operating Cost in the Forecast Year (YOE\$):	\$21,451,142	Total Transit System (including New Starts Project) Annual Operating Cost in the Forecast Year (YOE\$)		
Proposed Sources of Operating Funds (Proposed sources of operating funds that are anticipated to support operating expenses of the transit system.)	Dollar Amount	Type of Funding Source	Annual/Dedicated	Specify Whether New or Existing Funding Source
Farebox Revenues	\$3,675,351	---	---	---
FTA Section 5307 Formula Program	\$2,686,519	Annual legislative appropriation	Annual	Existing
State Transit Operating Assistance	\$4,623,381	Annual legislative appropriation	Annual	Existing
RTA Sales Tax Revenue	\$10,465,891	Dedicated tax	Dedicated	New
Total	\$21,451,142			

Transit System Operating Characteristics

Current Systemwide Characteristics (Can be the same data as reported to the FTA for the National Transit Database)	Number/Value	Future Transit System with New Starts Project (Systemwide characteristics at completion of the New Starts Project)	Number/Value
Farebox Recovery Percent	n/a	Farebox Recovery Percent	17.1%
Number of Buses	n/a	Number of Buses	0
Number of Rail Vehicles	n/a	Number of Rail Vehicles	11
Current Annual Passenger Boardings	n/a		
Daily Passenger Boardings	n/a		
Average Fare	n/a	Average Fare	\$1.29
Average Age of Buses	n/a		
Average Age of Rail Vehicles	n/a		
Revenue Miles of Service Provided	n/a	Revenue Miles of Service	482,548
Revenue Hours of Service Provided	n/a	Revenue Hours of Service	30,395

Note:

- 1) Land Use Calculations: If a TAZ lies in the buffer of more than one station, then its characteristics are distributed as a ratio of area captured by each station and assigned accordingly to each station.
- 2) In calculating land area of corridor, the area of Lake Monona is subtracted from the total corridor area.
- 3) The metropolitan area includes Dane County in its entirety.
- 4) Post model benefits assumptions and approach described in Section 3.3.