MINNESOTA
URBAN PARTNERSHIP AGREEMENT

NATIONAL EVALUATION:
TELECOMMUTING TEST PLAN

U.S. Department of Transportation
Research and Innovative Technology Administration
Federal Highway Administration
Federal Transit Administration

FINAL
November 17, 2009
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TELECOMMUTING TEST PLAN

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Prepared for

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16. Abstract

This report presents the telecommuting test plan for the Minnesota Urban Partnership Agreement (UPA) under the United States Department of Transportation (U.S. DOT) UPA Program. The Minnesota UPA projects focus on reducing congestion by employing strategies consisting of combinations of tolling, transit, telecommuting/TDM, and technology, also known as the 4 Ts. The test plan builds on the Minnesota UPA National Evaluation Plan. This test plan identifies the data needed to analyze the telecommuting hypotheses and questions. The data sources and the data available are discussed and the potential risks associated with telecommuting data collection and analysis activities are discussed. The methods for analyzing the telecommuting data are presented, along with the schedule and responsibilities.

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LIST OF ABBREVIATIONS

4Ts	Tolling, Transit, Telecommuting, and Technology
APC	Automatic passenger counter
ATM	Active traffic management
AVL	Automatic vehicle location
BRT	Bus rapid transit
CBD	Central Business District
CBA	Cost and benefit analysis
CRD	Congestion Reduction Demonstration
CVO	Commercial vehicle operator
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HC	Hydrocarbon(s)
HOT	High-occupancy tolling
HOV	High-occupancy vehicle
ITS	Intelligent transportation systems
ITS-OTMC	Intelligent Transportation Systems-Operational Testing to Mitigate Congestion
MARQ2	Marquette and Second Avenue (downtown Minneapolis)
Mn/DOT	Minnesota Department of Transportation
MOE	Measure of effectiveness
MVTA	Minnesota Valley Transit Authority
NEF	National Evaluation Framework
NEP	National Evaluation Plan
NEPA	National Environmental Policy Act
NTOC	National Transportation Operations Coalition
O&M	Operation and maintenance
OTMC	Operational Testing to Mitigate Congestion
PDSL	Priced dynamic shoulder lane
RITA	Research and Innovative Technology Administration
ROG	Reactive organic gas(es)
ROWE	Results Only Work Environment
SOV	Single-occupant vehicle
TDM	Travel demand management
TMO	Traffic management operations
UPA	Urban Partnership Agreement
U.S. DOT	U.S. Department of Transportation
VII	Vehicle Infrastructure Integration
VMT	Vehicle miles traveled
VOC	Vehicle operating cost or Volatile organic compound
VT	Vehicle trips

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1.0 INTRODUCTION

This report presents the test plan for collecting and analyzing information on the use of telecommuting, Results Only Work Environment (ROWE), and flexible work arrangements for the National Evaluation of the Minnesota Urban Partnership Agreement (UPA) under the United States Department of Transportation (U.S. DOT) UPA program. This information will be used in examining the telecommuting, congestion, environmental, equity, business impacts, and cost benefit analyses contained in the Minnesota UPA National Evaluation Plan. This is one of 11 test plans identified in the Minnesota UPA National Evaluation Plan.

The test plan begins with a brief overview of the Minnesota UPA projects, the telecommuting analysis, and the relationship between the analysis areas and the test plans outlined in the Minnesota UPA National Evaluation Plan. The test plan presents the sources and availability of information on employers and employees participating in the telecommuting, ROWE, and flexible work arrangements program. Potential risks associated with the data and the data collection and analysis activities are discussed, and the data analysis techniques are described. The schedule and responsibilities for collecting, analyzing, and reporting on the telecommuting analysis are also presented.

1.1 The Minnesota UPA

Minnesota was selected by the U.S. DOT as an Urban Partner to implement projects aimed at reducing congestion based on four complementary strategies known as the 4Ts: Tolling, Transit, Telecommuting/Travel Demand Management (TDM), and Technology. Under contract to the U.S. DOT, a national evaluation team led by Battelle is assessing the impacts of the projects in a comprehensive and systematic manner in Minnesota and other sites. The national evaluation will generate information and produce technology transfer materials to support deployment of the strategies in other metropolitan areas. The national evaluation will also generate findings for use in future federal policy and program development related to mobility, congestion, and facility pricing.

The Minnesota UPA partners include the Minnesota Department of Transportation (Mn/DOT), the Twin Cities Metropolitan Council, Metro Transit, the City of Minneapolis, Minnesota Valley Transit Authority (MVTA), and Anoka, Dakota, Ramsey, and Hennepin counties. The Center for Transportation Studies and the Hubert H. Humphrey Institute of Public affairs at the University of Minnesota are also partners in the UPA.

The Minnesota projects are focused on reducing traffic congestion in the I-35W corridor and in downtown Minneapolis. ITS technologies underlie many of the Minnesota UPA projects, including those focused on tolling, real-time traffic and transit information, transit signal priority, and guidance technologies for shoulder-running buses. Figure 1-1 highlights the general location of the various Minnesota UPA projects, which are described below.

- **High Occupancy Toll (HOT) Lanes**. The HOT lanes on I-35W represent a major component of the Minnesota UPA. This element includes expanding the existing HOV lanes to HOT lanes and constructing new HOT lanes. The HOT lanes will be dynamically priced. The existing HOV lanes on I-35W from Burnsville Parkway to

I-494 will be expanded into dynamically priced HOT lanes. A new dynamically priced HOT lane will be added on I-35W from I-494 to 46th Street as part of the reconstruction of the Crosstown Commons Section.

- **Priced Dynamic Shoulder Lane (PDSL)**. The second tolling element of the Minnesota UPA is the implementation of a PDSL on I-35W in the northbound direction from 46nd Street to downtown Minneapolis. The PDSL incorporates active lane management techniques and technologies, including speed harmonization.
- **Auxiliary Lanes**. An auxiliary lane and collector ramp is being constructed on I-35W in the northbound direction from 90th Street and I-494. An auxiliary lane is being constructed on I-35W in the southbound direction from 106th Street to Highway 13.
- **Park-and-Ride Facilities**. A total of six new or expanded park-and-ride facilities will be constructed as part of the Minnesota UPA. Two of the park-and-ride facilities are on I-35W north of downtown Minneapolis, one is on I-35W south of downtown Minneapolis, and three are on Cedar Avenue. The following describes the general facility locations and the anticipated number of parking spaces. A new 500-space parking ramp will be constructed adjacent to the existing 1,000-space parking lot at 95th Ave along I-35W North in Blaine. A new 460-space parking ramp will be constructed along I-35W North in Roseville. A new 750-space parking ramp will be constructed along I-35W south in Lakeville. A new 120-space parking lot with an enclosed passenger waiting facility will be constructed along Cedar Ave at Highway 13 in Eagan. A new 200-space parking lot will be constructed along Cedar Avenue at 180th Street in Lakeville. A new 500-space parking ramp, a 250-space surface lot, and a side platform station will be constructed along Cedar Ave at 155th Street in Apple Valley.
- **New Buses**. A total of 27 new buses will be purchased as part of the Minnesota UPA. These vehicles include a mix of standard, hybrid, and coach buses. The buses will be used to operate new and expanded express bus service.
- **Downtown Minneapolis Dual Bus Lanes on Marquette and 2nd Avenues**. Double contraflow bus lanes are being constructed on Marquette and 2nd Avenues in downtown Minneapolis. Called the MARQ2 project, the lanes replace existing single contraflow lanes on each avenue. The project also includes construction of wider sidewalks, and improved lighting, landscaping, and passenger waiting areas.
- **Transit Advantage Bus Bypass Lane**. A "Transit Advantage" bus bypass lane/ramp has been constructed to facilitate the movement of northbound buses at the Highway 77/Highway 62 intersection. A new bus-only left-turn lane has been constructed and new traffic signals have been installed to allow buses to make a left turn from Highway 77 to Highway 62.
- **Cedar Avenue Lane Guidance System**. A lane guidance system for shoulder-running buses will be developed, implemented, and operated on Cedar Avenue. The system includes lateral guidance assistance, collision avoidance, and AVL technology. Lane assistance feedback will be provided to the bus operator through a "heads up" windshield display, a vibrating seat, and an active steering wheel.

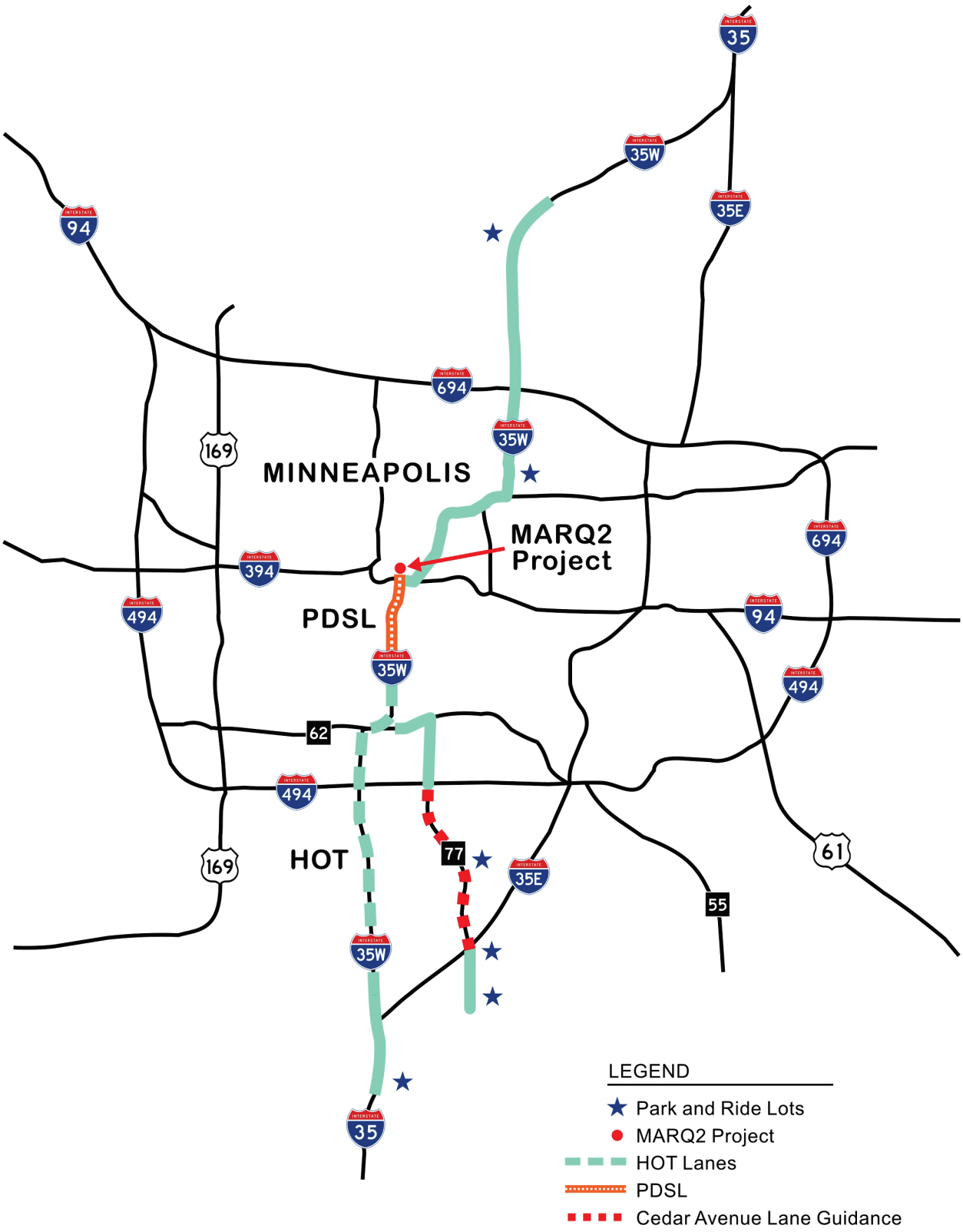

Figure 1-1. General Location of Minnesota UPA Projects

- **Real-Time Transit Information and Real-Time Traffic and Transit Information**. Real-time transit information, including next bus arrival information, will be provided along the MARQ2 lanes in downtown Minneapolis and park-and-ride facilities. Dynamic message signs along I-35W will display real-time traffic and transit travel times to downtown Minneapolis.
- **Transit Signal Priority**. Transit signal priority will be implemented along a contiguous stretch of Central Avenue north of downtown Minneapolis, and at selected locations around two park-and-ride facilities.
- **Telecommuting**. The telecommuting element of the Minnesota UPA focuses on increasing the use of ROWE, telecommuting, and flexible work arrangements throughout the region, including increasing the number of teleworkers and/or workers on flexible schedules in the I-35W corridor by 500 individuals. ROWE provides employees flexibility in the work location and hours by focusing on performance and results rather than presence at the office during standard work hours. ROWE is used extensively at Best Buy Corporation, headquartered in Minnesota. The UPA telecommuting component seeks to increase its use by other businesses in the region. The telecommuting element is funded entirely with state funds.

The Transit Advantage project became operational in December 2008. The majority of projects will be in operation by December 2009. The I-35W HOT lanes in the Crosstown Commons Section, the Cedar Avenue Lane Guidance System, and the Cedar Avenue Transit Station are scheduled for completion by October 2010.

1.2 Minnesota UPA National Evaluation Plan and Use of Data Obtained in the Telecommuting Test Plan

The Minnesota UPA National Evaluation Plan focuses on the 12 analysis areas outlined in the National Evaluation Framework (NEF)[1] and 11 test plans. Table 1-1 presents the relationships among the analysis areas and the test plans. The telecommuting data test plan will be used in the telecommuting analysis. Table 1-2 presents the telecommuting test plan data element and the measure of effectiveness and the hypothesis/question that the data will be used to help answer. The Surveys, Interviews, and Focus Groups Test Plan describes the surveys of participating telecommuters, which provide key data for completing the telecommuting analysis.

The remainder of this report is divided into three sections. Chapter 2.0 presents the data sources, data availability, and potential risks for evaluating the telecommuting, ROWE, and flexible work arrangement elements of the Minnesota UPA. Chapter 3.0 describes the techniques for analyzing the telecommuting information. Chapter 4.0 presents the schedule and responsibilities for completing the telecommuting test plan.

[1]The document is available online at following website:
http://www.itsdocs.fhwa.dot.gov//JPODOCS/REPTS_TE//14446

Table 1-1. Relationship Among Test Plans and Evaluation Analysis

Minnesota UPA Test Plans	Evaluation Analysis: Congestion Analysis	Tolling Analysis	Transit Analysis	Telecommuting/ TDM Analysis	Technology Analysis	Safety Analysis	Environmental Analysis	Equity Analysis	Goods Movement Analysis	Business Impact Analysis	Non-Technical Success Factors Analysis	Cost Benefit Analysis
Traffic System Data Test Plan	●	○	○	○	●	○	○	○	●	○		●
Tolling Test Plan		●					○	○	○			●
Transit System Data Test Plan	○	○	●	○	●	○	○	○				●
Telecommuting Data Test Plan				●								
Safety Test Plan						●						●
Surveys Test Plan	●	●	●	●	●	●	●	●	●	●	●	
Transportation Modeling Test Plan												●
Environmental Data Test Plan							●	○				●
Content Analysis Test Plan											●	
Cost Benefit Analysis Test Plan												●
Exogenous Factors Test Plan	○	○	○	○	○	○	○	○	○	○	○	○

● — Major Input ○ — Supporting Input

Table 1-2. Telecommuting Test Plan Data Elements Use in Testing Evaluation Hypotheses/Questions

Minnesota Transit Data Element	Minnesota UPA Measure of Effectiveness	Minnesota UPA Hypotheses/Questions*
1. Humphrey Institute – Record of Participating Employers/Employees	• Number of participating employers and employees	MNTele/TDM-1

*Listed are acronyms corresponding to hypotheses/questions to be addressed with data from this test plan. An explanation of these acronyms can be found in Appendix A, which contains a compilation of the hypotheses/ questions for all the analysis areas from the Minnesota UPA National Evaluation Plan. The Surveys, Interviews, and Focus Group Test Plan describes the surveys of participating telecommuters, which will be used in the telecommuting analysis and other analyses.

2.0 DATA SOURCE, AVAILABILITY, AND RISKS

2.1 Data Source

The telecommuting element of the Minnesota UPA is funded by the state, with no federal resources. The Hubert H. Humphrey Institute of Public Affairs at the University of Minnesota is overseeing the telecommuting, ROWE, and flexible work arrangements program. As a result, the data for the telecommuting analysis will be obtained from the Humphrey Institute and their contractors.

The Minnesota UPA telecommuting program elements and process are outlined in two documents – Urban Partnership Agreement Telecommuting Program for the Twin Cities[2] and Telework Initiative Implementation Plan.[3] The scope of the program has been expanded from the target of 500 telecommuters in the I-35W corridor identified in the Minnesota UPA term sheet to a metropolitan-wide focus. The term telework is being used to implement the program as it appears to better resonate with employers.

The goal outlined in the Implementation Plan is to promote increased use of telework, ROWE, and flexible work scheduling to reduce peak period commuting by eliminating trips or shifting travel to off-peak hours. The identified target is to establish or expand telework programs to retain a minimum of 2,700 employee participants for at least three months. The focus is on mid- to large-sized employers.

The five Transportation Management Organizations (TMOs) in the region are conducting the telework recruiting activities. The TMOs are Downtown Minneapolis, Anoka County, I-494 Commuter Services, St. Paul Smart-trips, and Metro Transit Commuter Services. CultureRx LLC, which is a consulting firm specializing in the adoption of ROWE, is also responsible for working with employers interested in implementing ROWE. The implementation plan includes five task teams to develop, implement, manage, and evaluate the program. The task teams focus on project management, marketing and branding, recruitment, consulting and training, and evaluation.

The Humphrey Institute is monitoring and evaluating all elements of the telework program, including employee productivity, employer costs, and other factors for all participating employers. The national UPA evaluation has a narrower focus. The national evaluation team is interested in the impacts of the telework program on traffic congestion in the I-35W corridor. As a result, the national evaluation is interested is the number of employees currently using I-35W who switch to telework, ROWE, or alternative work arrangements, thereby eliminating trips from I-35W or changing travel times to less congested time periods.

As described in this test plan, data on employers and their employees participating in the telework, ROWE, and flexible work arrangements program will be obtained from the Humphrey

[2] Urban Partnership Agreement Telecommuting Program for the Twin Cities, Hubert H. Humphrey Institute of Public Affairs, University of Minnesota, March 3, 2009.

[3] Telework Initiative Implementation Plan, Hubert H. Humphrey Institute of Public Affairs, University of Minnesota, and SRF Consulting, April 17, 2009.

Institute. The surveys to be used to fully assess the influence of the telecommuting, ROWE, and flexible work arrangements program are presented in the Survey, Interviews, and Focus Groups Test Plan.

Hubert H. Humphrey Institute of Public Affairs Participating Employer and Employee Records. The data source for this test plan is the employers participating in the telework, ROWE, and flexible work arrangements program. Information from these employers on participating employees will also be used as available.

The Humphrey Institute will maintain records on the total number of employers and employees in the program. Table 2-1 provides an outline of the data the national evaluation needs from the Humphrey Institute on an ongoing basis to track participating employers and employees. Use of this table is intended to provide an easy mechanism for obtaining updated information on employers and their employees participating in the telecommuting elements of the Minnesota UPA.

Table 2-1. Basic Information on Participating Employers

Participating Company	
Address	
Location	
I-35W Corridor	
Downtown Minneapolis	
I-494 Corridor	
Other	
Type of Telecommuting	
ROWE	
Telework	
Alternative Work Arrangement	
Number of Employees	
Number of Eligible Employees	
Number of Participating Employees	
Number of Participating Employees Using I-35W in Commute	

2.2 Data Availability

The data needed to identify employers and employees participating in telework, ROWE, and flexible work arrangements will be provided monthly by the Humphrey Institute and maintained in a database. For each participating employer, the information in Table 2-1 will be provided by the Humphrey Institute to the Battelle team on a monthly basis throughout the project.

2.3 Potential Risks

There do not appear to be any significant risks associated with obtaining information on the employers participating in the telework, ROWE, and flexible work arrangements program from the Humphrey Institute. The telecommuting program involves ongoing marketing, recruitment, participation, and evaluation. Marketing activities and recruiting employers and employees have been initiated. Two major employers, Fairview Hospital and Hennepin County, have begun participating. The ongoing nature of the program, with employers and employees joining at different times throughout the pre- and post-deployment period of other UPA projects, may cause some scheduling challenges for the national evaluation. To help mitigate any potential risks, members of the Battelle team will remain in regular contact with researchers at the Humphrey Institute to ensure the ongoing exchange of information.

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3.0 DATA ANALYSIS

The data analysis for this test plan is basic and straight forward. The number of participating employers will be monitored and recorded. Employers located in the I-35W travel shead – including downtown Minneapolis and the I-494 corridor – will be identified. To the extent information is available, the number of participating employees will be recorded and those with an origin or destination in the I-35W corridor will be identified for follow-up in obtaining information from the Survey, Interview, and Focus Group Test Plan.

Table 3-1 outlines how the data obtained from the participating employers will be examined and summarized. The data provided by the Humphrey Institute will be examined on a monthly basis. The number of participating employers and employees will be tracked and a trend line will be established and updated monthly. The growth in participation will be examined along with changes in commuting behavior resulting from other UPA projects.

Table 3-1. Summary Information on Participating Employers

	Number
Total Participating Employers	
Employers in I-35W Corridor	
Employers in Downtown Minneapolis	
Employers I-494 Corridor	
Employers in I-35W Corridor	
ROWE	
Telework	
Alternative Work Arrangement	
Total Number of Employees	
Total Number of Eligible Employees	
Total Number of Participating Employees	
Total Number of Participating Employees Using I-35W in Commute	

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4.0 SCHEDULE AND RESPONSIBILITIES

The Humphrey Institute is responsible for oversight of the telework, ROWE, and flexible work arrangements project. The Humphrey Institute's contractors are responsible for program development, market research, brand development, employer outreach and recruitment, employer assistance, participant registration, data collection among participating employees and employers, and data compilation and reporting. The TMOs are also playing a major role in outreach, recruitment, employer assistance, and other activities.

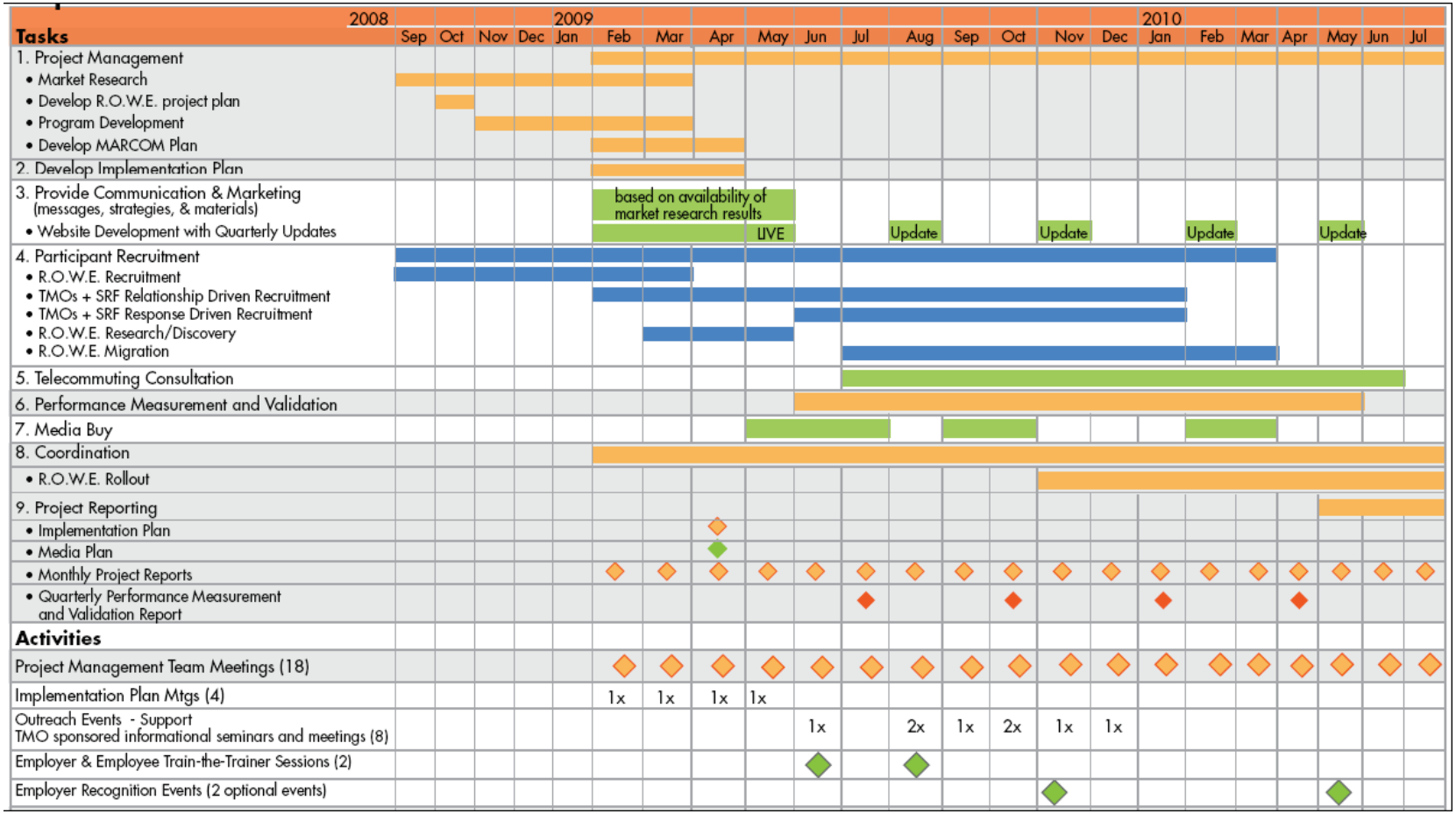
Table 4-1 presents the overall schedule from the implementation plan. Program activities have been initiated, including employer recruitment. To date, two major employers, Fairview Hospital and Hennepin County, are participating in the program. The schedule in Table 4-1 shows recruitment continuing until April 2010, with consultation, performance measurement, and reporting continuing until June and July 2010.

Battelle team members will receive monthly updates on participating employers from the Humphrey Institute over the life of the program. Battelle team members will summarize available information for the two interim reports and the final evaluation report.

The responsibilities for collecting and analyzing the data on employers participating in the program are summarized below.

- Humphrey Institute researchers will provide monthly updates on the employers and employees participating in the telework, ROWE, and flexible work arrangements program to the Battelle team.
- Battelle team members will analyze information on employers and employees participating in the telework, ROWE, and flexible work arrangements project provided by the Humphrey Institute. Members of the Battelle team will examine the employer and employee data related to the I-35W corridor and will incorporate the findings into the interim and final evaluation reports.

Table 4-1. Overall Schedule from the Implementation Plan



APPENDIX A – COMPILATION OF HYPOTHESIS/QUESTIONS FROM THE MINNESOTA UPA NATIONAL EVALUATION PLAN

Evaluation Analysis	Hypothesis/Question Number	Hypothesis/Question
Congestion	MNCong-1	Deployment of the UPA improvements will reduce the travel time of users in the I-35W corridor.
	MNCong-2	Deployment of the UPA improvements will improve the reliability of user trips in the I-35W corridor.
	MNCong-3	Traffic congestion on I-35W will be reduced to the extent that travelers in the corridor will experience a noticeable improvement in travel time.
	MNCong-4	Deployment of the UPA projects will not cause an increase in the extent of traffic congestion on surrounding facilities adjacent to I-35W.
	MNCong-5	Deploying the UPA improvements will result in more vehicles and persons served in the I-35W corridor during peak periods.
	MNCong-6	A majority of survey respondents will indicate a noticeable reduction in travel times after the deployment of the UPA improvements.
	MNCong-7	A majority of survey respondents will indicate a noticeable improvement in trip-time reliability after the deployment of the UPA projects.
	MNCong-8	The majority of survey respondents will indicate a noticeable reduction in the duration of congestion after deployment of the UPA projects.
	MNCong-9	A majority of survey respondents will indicate a noticeable reduction in the extent of congestion after the deployment of the UPA projects.
Tolling	MNTolling-1	Vehicle access on the HOT lanes and PDSL on I-35W will be regulated to improve operation of I-35W
	MNTolling-2	Some general-purpose lane travelers will shift to the I-35W HOT lanes and PDSL, while HOV lane travelers will remain in the HOT lane
	MNTolling-3	HOV violations will be reduced
	MNTolling-4	After ramp-up, the HOT lanes and PDSL on I-35W maintains improved operations

Evaluation Analysis	Hypothesis/Question Number	Hypothesis/Question
Transit	MNTransit-1	The HOT lanes, PDSL, MARQ2 bus lanes, and Transit Advantage project, and shoulder running lane guidance system will increase bus travel speeds, reduce bus travel times, and improve bus trip-time reliability in the I-35W and Cedar Avenue corridors, and downtown Minneapolis
	MNTransit-2	The new park-and-ride lots and new and expanded transit services will result in ridership increases including a mode shift to transit.
	MNTransit-3	The mode shift to transit from the UPA transit strategies will reduce congestion on I-35W, downtown Minneapolis, and other roadways.
	MNTransit-4	What was the relative contribution of each of the Minnesota UPA transit strategies to mode shift to transit?
Telecommuting/ TDM	Tele/TDM-1	Use of telecommuting, ROWE, and other flexible work schedules removes trips and VMT from the I-35W corridor.
	Tele/TDM-2	Integration of telecommuting into the UPA project enhances congestion mitigation.
	Tele/TDM-3	What was the relative contribution of the telecommuting strategies to overall travel behavior changes, including secondary impacts of telecommuting
Technology	MNTech-1	Active traffic management strategies, including speed harmonization and DMS with transit and highway travel times, promoting better utilization and distribution of traffic to available capacity in the I-35W corridor.
	MNTech-2	Active traffic management strategies will reduce the number and duration of incidents that result in congestion in the I-35W corridor.
	MNTech-3	What was the relative contribution of each technology enhancement on congestion reduction in the I-35W corridors?
Safety	MNSafety-1	Active traffic management will reduce the number of primary and/or secondary crashes.
	MNSafety-2	The HOT lanes and the PDSL on I-35W South will not adversely affect highway safety.
	MNSafety-3	The MARQ2 dual bus lanes in Downtown Minneapolis will not adversely affect safety.
	MNSafety-4	The lane guidance system for shoulder running buses will not adversely affect safety.

Evaluation Analysis	Hypothesis/Question Number	Hypothesis/Question
Equity	MNEquity-1	What are the direct social effects (tolls paid, travel times, adaptation costs) for various transportation system user groups from the I-35W HOT lanes, PDSL, transit, and other UPA strategies?
	MNEquity-2	What is the spatial distribution of aggregate out-of-pocket and inconvenience costs, and travel-time and mobility benefits?
	MNEquity-3	Are there any differential impacts on certain socio-economic groups?
	MNEquity-4	How does reinvestment of revenues from the I-35W HOT lanes and PDSL impact various transportation system users?
Environmental	MNEnv-1	What are the impacts of the Minnesota UPA strategies on air quality?
	MNEnv-2	What are the impacts on perceptions of overall environmental quality?
	MNEnv-3	What are the impacts on energy consumption?
Goods Movement	MNGoods-1	CVOs will experience reduced travel time by using the HOV lanes and PDSL on I-35W if CVO use is permitted.
	MNGoods-2	CVOs will experience reduced travel time by the overall reduction in congestion on I-35W from the UPA projects.
	MNGoods-3	CVOs hauling or delivering goods will perceive net benefit of HOT and PDSL (e.g., benefits such as faster service and greater customer satisfaction outweigh higher operating costs due to tolls). The exception may be in downtown Minneapolis, where delivery and service vehicles will not be allowed to use the dual bus lanes during the peak hours.
Business	MNBusiness-1	What is the impact of the UPA strategies on employers? e.g., employee satisfaction with commute perceived productivity impacts employee retention/hiring impacts negative impacts (increased cost of doing business)
	MNBusiness-2	How are businesses that are particularly impacted by transportation costs affected (e.g., taxis, couriers, distributors, tradesmen)?

Evaluation Analysis	Hypothesis/Question Number	Hypothesis/Question
Non-Technical	MNNonTech-1	What role did factors related to “people” play in the success of the deployment? People (sponsors, champions, policy entrepreneurs, neutral conveners)
	MNNonTech-2	What role did factors related to “process” play in the success of the deployment? Process (forums including stakeholder outreach, meetings, alignment of policy ideas with favorable politics, and agreement on nature of the problem)
	MNNonTech-3	What role did factors related to “structures” play in the success of the deployment? Structures (networks, connections and partnerships, concentration of power and decision-making authority, conflict-management mechanisms, communications strategies, supportive rules and procedures)
	MNNonTech-4	What role did factors related to “media” play in the success of the deployment? Media (media coverage, public education)
	MNNonTech-5	What role did factors related to “competencies” play in the success of the deployment? Competencies (cutting across the preceding areas: persuasion, getting grants, doing research, technical/technological competencies; ability to be policy entrepreneurs; knowing how to use markets)
	MNNonTech-6	Does the public support the UPA/CRD strategies as effective and appropriate ways to reduce congestion?
Cost Benefit	MNCBA-1	What is the net benefit (benefits minus costs) of the UPA/CRD strategies?

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