Morgantown Monongalia Metropolitan Planning Organization
Transportation Demand Management Feasibility Study

Final Report

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INTRODUCTION

Background

PB conducted the Morgantown Monongalia Metropolitan Planning Organization (MPO) Transportation Demand Management (TDM) Feasibility Study Project. The study was initiated to explore the potential for implementing additional TDM strategies in response to the MPO 2006 Long Range Transportation Plan and the 2008 Mountain Line Transit Plan, both of which suggest exploration of alternative strategies, including TDM.

The study area (Figures 1 and 2) is contained within Monongalia County and includes the City of Morgantown. The county borders the State of Pennsylvania, with the City of Morgantown situated approximately 77 miles from Pittsburgh, 155 miles from Charleston, West Virginia and 218 miles from Washington, D.C. Major roadways include Interstates 68 and 79, both of which intersect in the study area and are major thoroughfares for travelers. Other key corridors include US Route 19, a north-south highway, US Route 119 (spur of 19) and Route 7, an east-west state highway. Route 705, an east-west by-pass connects Routes 119 and 19/7 and serves the northern section of Morgantown.

Morgantown has been recognized as one of the best small cities in the country, boasting world-class healthcare, recreation, education, and art facilities along with a strong business community. It is also home to West Virginia University. Morgantown and Monongalia County are business friendly and represent one of the major growth areas in the state. Monongalia County was the only north central county to realize population growth for the last 20 years, and it was one of the fastest-growing counties in the state during the 1990s[1].

[1] http://www.morgantown.com/overview.htm

Introduction: Background

Figure 1: Study Area

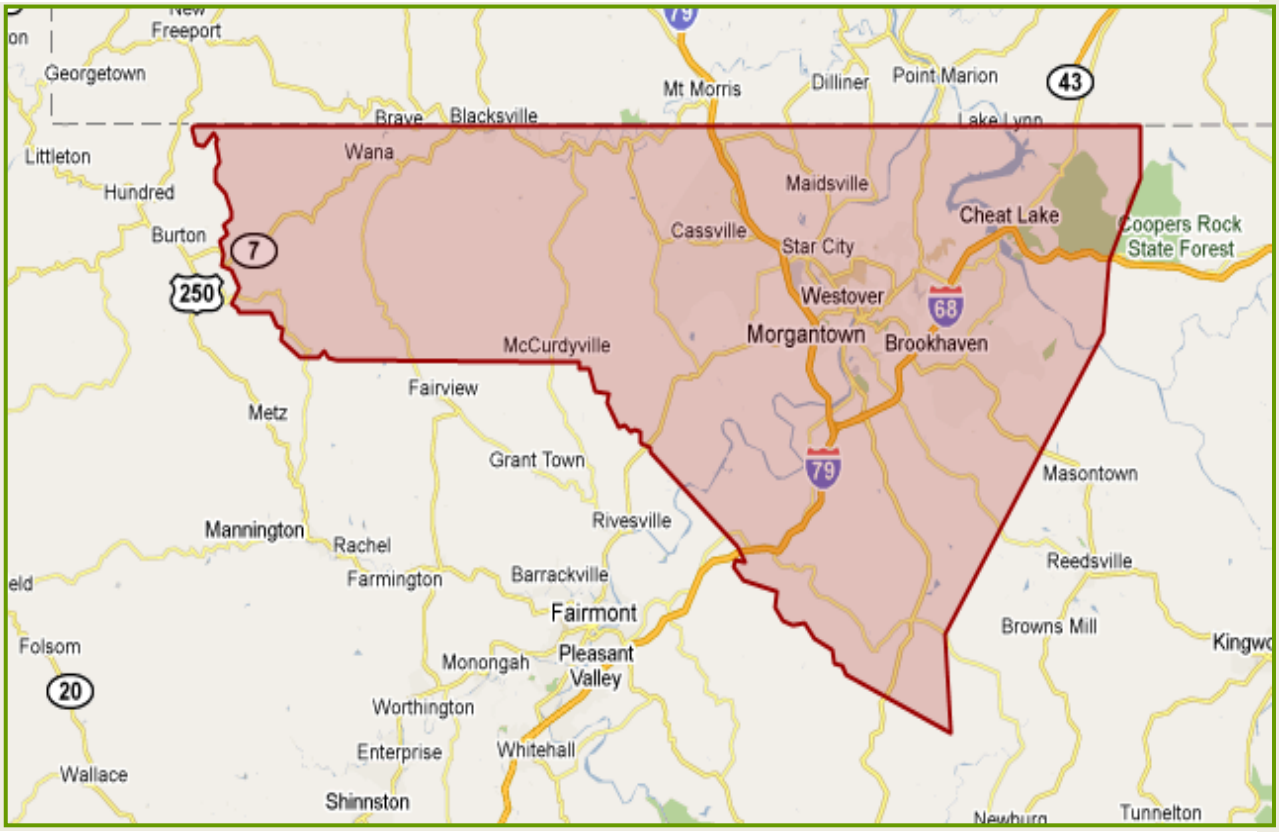


Figure 2: Study Area Local View

Introduction: Background

To keep pace with this growth now and into the future, a long-range transportation plan was developed in 2006. Support for the establishment of TDM strategies can be found within the 2030 Regional Transportation Plan, which provides a vision for addressing existing and anticipated travel demand on the multimodal transportation system in the MPO serving area. Goals and objectives specific to TDM found within the plan include the following (Figure 3):

Figure 3: 2030 Regional Transportation Plan, Transportation System Goals and Objectives

Goal 1: Develop an interconnected intermodal transportation network	
Objectives	Support alternative modes/routes for key trip sheds
	Promote and integrate alternative modes
	Reduce weekday peak-hour delay
	Grade separate bike/pedestrian from auto/truck
	Improve intermodal interconnectivity
	Incorporate TDM alternative modes in roadway projects
Goal 2: Implement improvements that support mobility	
Objectives	Establish multimodal transportation system
	Coordinate employer/business resources
	Parking facility flow and remote-use impacts
	Improve transit route/scheduling
Goal 3: Support economic development in balance with environmental needs	
Objective	Address downtown congestion

Introduction: Background

Although the purpose of the study was to explore the potential for implementing TDM strategies within the region, it should be noted that several TDM efforts are currently in place to include West Virginia University as well as several other major employers located within the study area. In addition, Morgantown residents have made a significant commitment to the use of alternative methods of commuting with high numbers of city residents who walk, ride bicycles or share a ride for work and other purposes. These transportation demand efforts and their apparent affect on local travel behaviors were taken into consideration in preparation for this final report.

Introduction: The Study Process

The Study Process

The TDM Study was launched with the involvement of an initial MPO TDM Steering Committee, which was subsequently expanded as a result of the stakeholder interview process.

A market analysis was conducted to identify demographic, travel and trip data for the region in addition to a review of the TDM state of the practice from other similar college communities. Interviews were conducted with local business leaders, deemed project stakeholders as identified with support from the MPO.

The Project Team executed a community-wide transportation survey to identify public concerns as well as interest levels in TDM concepts to aid in the overall assessment of TDM readiness for the area. A second survey was executed to interested survey respondents in follow up to the initial community-wide version.

The results of each of these efforts are included as separate additions to this final report.

Introduction: Executive Summary

Executive Summary

The Morgantown Region has the potential to be a good market for Transportation Demand Management (TDM) Services. It already has many of the attributes necessary to sustain a TDM Program. PB found the presence of many of the characteristics that have made TDM programs in similar sized communities successful. These are:

1. Favorable Employment - Many of Morgantown's employers are in the healthcare, government, education and manufacturing industries, which employ workers who traditionally use shared-ride services.
2. Limited Roadway Capacity - The roadway network in the Morgantown region is constricted by the region's topography with mountains and waterways.
3. High Densities of Employment and Other Activities - The major employers in Morgantown are concentrated near the medical and educational institutions resulting in congestion around peak periods.
4. Limited Financial Resources Available to Expand the Existing Transportation Infrastructure - Historical low funding has limited the ability of the State of West Virginia and local jurisdictions to fund transportation infrastructure improvements. TDM, therefore, can fill this void with its low cost, yet flexible set of services that yield a high return on investment.

Equally, if not more importantly, the series of public outreach efforts executed within the Morgantown community revealed that transportation users are willing to take advantage of TDM strategies. Additionally, personal interaction with local business stakeholders confirmed the support required to bring TDM strategies forward.

The information presented in this document will reveal the strengths and weaknesses of existing services as well as suggest new strategies for the region. The study also factored in current TDM strategies being offered independently by several employers within the study area and provides collaborative approaches towards realizing meaningful results on a regional perspective.

Several issues were raised during the study process as high priority items that cannot be resolved or managed via TDM-specific strategies. However, these issues and their relationship to TDM are documented in this report for consideration within the overall context of transportation management.

In order to aid local decision-makers on the path forward, Phase 1 outlines potential organizational operating scenarios for a TDM effort with each of the key agencies represented on the Steering Committee including the MPO, the local transit agency, West Virginia University and major employers in the area positioned as the lead agency. Additionally, implementation of a regionalized TDM program will require funding. This document discusses commonly used funding sources for TDM programs across the country.

Introduction: Executive Summary

Positive to supporting movement into Phase 2 - program development - is that those agencies who commonly lead TDM program efforts are already involved in the study process. This includes the local transit agency, the University, the MPO and major employers in the area.

There are various funding sources for TDM programs. The prime source for the Morgantown area will be federal Congestion Mitigation and Air Quality (CMAQ) dollars. These funds may become available to operate a program in the area with ongoing revisions to air quality standards.

Phase 2 activities will determine an organizational model and set of TDM services that will meet the marketplace demand within the financial resources that the study has identified. The goal is to develop a solid foundation for a sustainable TDM program for the Morgantown region.

RESEARCH SUMMARIES

Data Review

Morgantown is similar to other small urban college communities across the country that are faced with balancing geographical and outdated infrastructure challenges with increased vehicle trips derived from a growing community with employment and university populations. To illustrate the potential for TDM program activities in Morgantown, PB conducted a market analysis of the study area and executed a peer review to identify communities similar to the study area that have made strides in delivery of TDM programs and services within their regions. The study also drew upon industry benchmarks in crafting suggested organizational, service and funding strategies.

The findings of the local data review indicate that the study area contains employment segments that would respond positively to transportation demand strategies. For example, the region employs a well-educated workforce in the education, science and health care industries, who typically engage in TDM programs. In addition, while travel times are on the rise, census data indicates a segment of commuters that currently utilizes some form of non-drive-alone commute method indicating an existing user market for transportation alternatives and benefits. Conversely, there remains a high drive-alone population of area commuters that would welcome the opportunity to utilize other transportation modes.

PB examined five similar college communities—Missoula, Montana; Burlington, Vermont; Blacksburg, Virginia; Bellingham, Washington; and Fort Collins, Colorado—to learn how TDM was incorporated into local planning efforts, to inventory existing TDM program strategies, identify program funding and obtain a sense of program impacts.

Research indicates that, in most instances, the communities recognize the benefit of TDM strategies and have planned to manage transportation demand in the future by incorporating strategies, performance measures and funding sources into their local transportation plans. Details of these findings are contained within the *Task 1 Peer Review Memorandum,* provided as a separate document for this study. Figure 4 illustrates the current strategies in place within each of the communities.

Research Summaries: Data Review

Figure 4: Peer Cities	***Morgantown, WV***	***Missoula, MO***	***Burlington, VT***	***Blacksburg, VA***	***Bellingham, WA***	***Ft. Collins, CO***
Metro Population[2]	*118,500*	*107,300*	*208,000*	*158,300*	*196,000*	*292,500*
Regional TDM Objectives	*U*	*R, U*	*R, U*	*R, U*	*R, U*	*R*
Carpool & Vanpool Matching	*U*	*R, U*	*R, U*	*R, U*	*R*	*R, U*
Employer Training Program		*R*	*R, U*	*R*	*R*	*R*
Carshare Program	*U*		*R, U*	*R, U*		
Transit	*R, U*	*R, U*	*R*	*R*	*R*	*R*
Emergency Ride Home Program	*U*	*R, U*	*R, U*	*R, U*	*R, U*	
Biking		*R, U*	*R, U*			*R*
Transportation Mgmt. Association(s)		*R*	*R*			

R = Available within the region; U = Available to or service provided within the University

While each of the region's goals may differ, for example, air quality improvements versus vehicle trip reduction targets, there are several similarities that are important to note.

Most of the commuters have access to a local, regional or state TDM program or service and, in particular, a ridematching service. This is a critical need for any TDM program to be effective as this is traditionally the foundation from which other programs evolve. The difference between them is primarily who the program serves, which is generally dictated by the source of program funding. For example, the State of Washington's Commuter Trip Reduction program is funded by the state and its programs are targeted to areas and employers that meet specific criteria. Vermont employs several TDM efforts; one funded through member partners via the TMA whose programs are available only to its member employees, as well as a separate statewide effort housed under the State of Vermont's Agency of Transportation with services available to all commuters. Programs may serve only a metropolitan planning region, as is the case in Missoula, which is funded by federal CMAQ dollars and matching funds.

Each peer example includes the important element of working directly with the business community through employer training or outreach efforts, which is a common element within a TDM program.

[2] http://www.census.gov/popest/metro/CBSA-est2008-pop-chg.html

Research Summaries: Data Review

These employer training and outreach efforts are typically provided by TDM Business Outreach representatives. Often, companies are not able to dedicate the staff time needed to maintain the industry knowledge required to effectively manage, market and monitor TDM services in the workplace. As a result, internal transportation programs, once launched, may never gain momentum and fail to generate any meaningful contribution in terms of vehicle trip reduction or other desired outcomes. The role of a TDM representative is to educate employer decision makers on available programs in the area, assess employee travel behavior and work with employers to help establish programs and services fitting to their workforce. They often act as brokers between employers and benefits and/or service providers, facilitating the start-up of certain transportation initiatives. Because TDM representatives are frequently well-informed of area and worksite transportation trends, they are better positioned to help employers negotiate with local transportation decision-makers on future transportation improvements. For example, awareness of a large segment of employees traveling a specific route to work who are willing to ride public transit, if it were available, could coordinate with the local transit provider to implement a pilot transit route. And, because TDM representatives often have access to this type of information for many (if not most) of the employers they work with, they would be able to identify collaborative opportunities for neighboring employers. Additional tasks generally include marketing support as well as guidance on transportation-related legislation.

Finally, a key similarity among the peer cities is the collaborative exchange of transportation information—or cross marketing of programs—for the benefit of all potential users. For example, many of the university websites contained information on the regional rideshare service in addition to their own internal program.

From a broader perspective, a review was conducted of TDM programs across the country using the Texas Transportation Institute's *2008 TDM Survey Report.* The first of its kind, the report includes responses from programs nationwide capturing common industry practices in place to support TDM programs, the level of subsidies offered, program participation results and program performance measures, among other information. Some of these report findings are referenced in this report. However, relevant to the review of TDM efforts and pertinent to the development of a TDM effort within the study area, the following report findings are brought forth for consideration:

a. Employer Outreach Methods. Recognizing employer involvement in TDM efforts is critical. The study confirmed this via high ratings in employer outreach efforts as a strategy among their programs. Methods most commonly used include personal visits, group presentations, email solicitations and networking through associations.

b. Regional Marketing Strategies. Reaching beyond the employer to market the TDM message is also important to educate travelers about the programs and create a sense of community awareness and support. Common strategies used in this regard include a program website, direct marketing to employers, visibility at worksites or other public events, program newsletters and, to a lesser degree, traditional media.

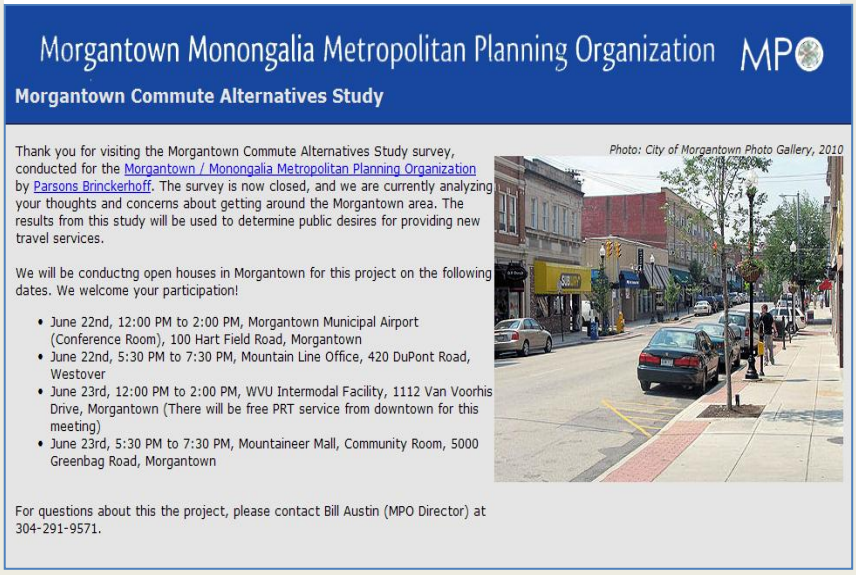
c. Measures of Effectiveness. Success is measured differently from program to program and can be determined by such factors as program maturity, sophistication of technology, staff resources and, in some cases, the requirements put forth by program funders. Collectively, most programs report vehicular reduction as their primary measure of effectiveness followed by outreach awareness. However, independently as each different program situation dictates, other measures rate higher or lower and range from modal shifts or emissions reductions to program awareness and customer satisfaction.

d. Metric/Data. Despite how programs reported measuring their success, behind the scenes a greater effort is in place to track a variety of data. Topping the list of metrics used to measure effectiveness is vehicle miles traveled (VMT) reduction, along with mode use rates, placement and retention rates, or tracking of marketing strategies.

PUBLIC OUTREACH

Launching a TDM program in the Morgantown region will require support from potential program users along with local business leaders and government officials. Gaining support for the process will require some level of public education for those unfamiliar with TDM strategies and benefits. The key to program development, however, will be to ensure that the program strategies fit the community.

Figure 5: TDM Study Project Web Portal



For this study, PB executed several key outreach efforts to obtain feedback on the desirability for TDM strategies in the region. The first effort included two surveys: a community-wide on-line survey and a survey designed solely for West Virginia University employees and students. Questions were crafted with input from the TDM Steering Committee and made available to the public via a specially created www.MorgantownCommute.com web portal (Figure 5), capturing WVU and non-WVU respondents separately. Limited feedback was also obtained via a separate abbreviated survey form made available at points of interest within the public realm. Collectively, nearly 3,000 commuters responded to this outreach effort. The resulting feedback supports initial findings reflecting a positive environment for the establishment of increased TDM strategies.

In tandem with the public survey process, stakeholder interviews were conducted with key representatives in the study area to determine their view of the transportation situation within the study area along with their potential support of a TDM program that would ultimately benefit their employees, constituents and others. Next, a series of four public workshops were scheduled at the conclusion of the on-line survey process.

Finally, PB executed a second survey aimed at roughly 40% (1,200 residents) of the original community and WVU survey respondents who had expressed interest in being included in future surveys related to this project.

Research Summaries: Public Outreach – Community Surveys

Community Surveys

Data collected from both WVU students and employees as well as the general commuting public (non-WVU) indicate high drive-alone rates (Figure 6), meaning that most respondents stated they drive alone to school or work. Other similarities include short commute distances, an overall concern for the future of transportation in the study area, and a willingness to be part of the solution as expressed via interest in specified TDM strategies (Figure 7). Students report the highest alternative mode share, which would be expected given their commute distances on campus and accessibility to personal rapid transit (PRT) and transit lines.

Nearly 82% of respondents agree that the study area is in need of substantial fixes in order to meet future demand.

In terms of perceived transportation issues, when reviewing survey data in combination with open comments, respondents commonly identify specific factors attributing to localized congestion as limited roadway space, lack of roadway maintenance, poorly-timed traffic lights, a lack of connectivity and a lack of proper land use zoning, along with the obvious trend in population growth. These issues clearly correlate to the top determining commute factors of travel time, safety and convenience.

Figure 6: Mode Split of Survey Respondents

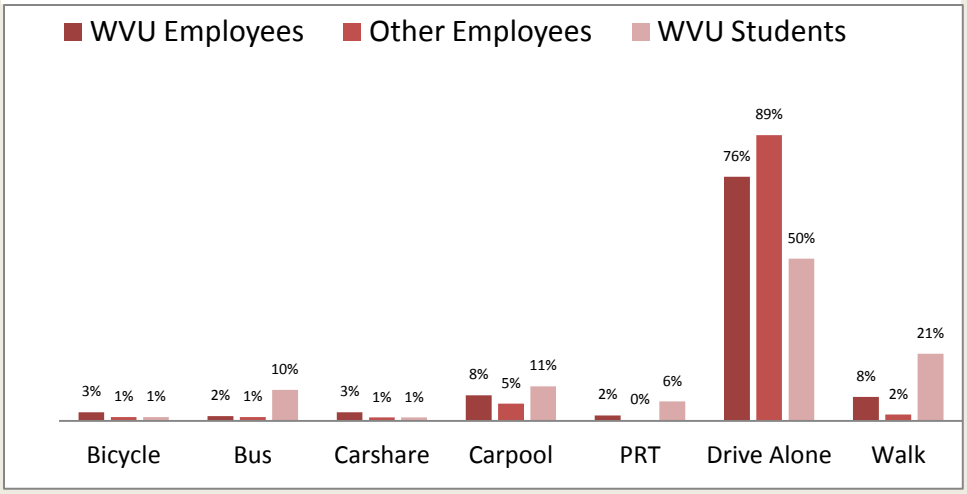
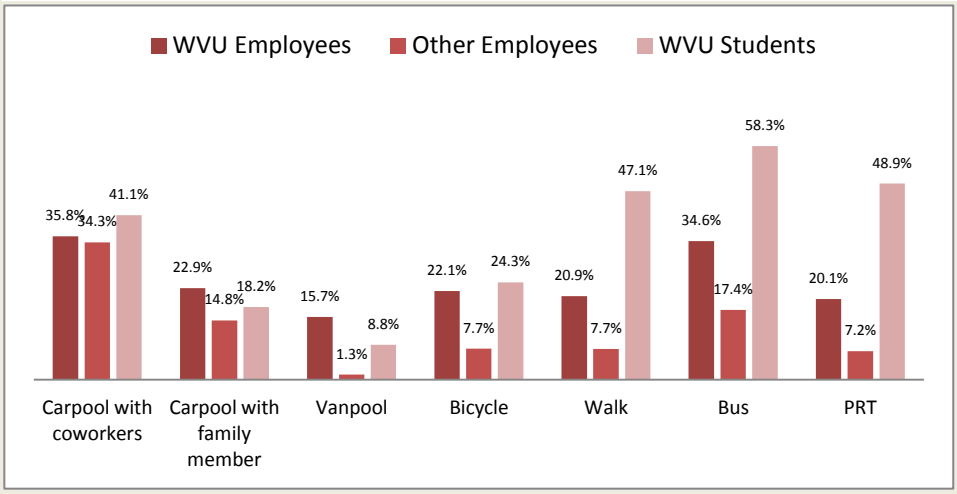


Figure 7: Willingness to use Alternate Modes



Research Summaries: Public Outreach – Community Surveys

Students had slightly different priorities and expressed a significant interest in a parking fix and showed higher sensitivity to the cost of commuting.

Given these identified priority issues, we can determine TDM' role as a potential solution. For those issues that TDM alone cannot remedy, PB draws upon industry knowledge when suggesting potential solutions.

Understanding accessibility to existing transportation services is important in identifying the types of TDM strategies that could generate greater use. Not surprisingly, responses indicate that students have greater access than non-students to alternative forms of transportation as a result of their proximity to campus, the PRT and dedicated public transit service. Despite this finding and the higher rate of current alternative mode use reported by students over employees, almost across the board students expressed the highest rate of willingness to try all alternative modes presented. This suggests either a need for increased marketing of the alternatives as they currently exist and/or further investigation into barriers that prevent use of those alternatives that are cited as "accessible." For example, while a bus route may have been rated as "close to home," perhaps service frequency or route connections are prohibiting use. Collectively, all respondents expressed a willingness to try each of the modes presented. This is a positive indicator of a TDM program's potential success. And, because of the relatively short commute trip for the majority of those working in Morgantown, it will be important to establish the right set of alternatives that focus on convenience for the end user. Likewise, a separate and parallel effort will need to be considered for those traveling further distances.

In order to establish the right incentives to encourage mode shift, it is important to know what motivates commuters in the Morgantown region. As is typical of most commuter transportation surveys, respondents rated telework and cash incentives highest as desirable incentives. Teleworking is being offered in some companies to a limited degree; however, expansion of existing programs or establishment of new programs is worth further investigation, especially considering the frequency of severe weather conditions that paralyze roadway travel. Cash incentives, while rated high, did not rate nearly as important in the context of cost being a concern when choosing how to commute. Furthermore, cash incentives are most often provided towards the cost of a qualified transportation commute such as a transit pass or vanpool. A short-term cash for carpooling campaign, however, could serve to jump start a new program in an effort to encourage commuters to try something new but would be cost prohibitive as a long-term solution. This incentive received high interest among respondents when posed in the second survey. In terms of subsidizing transit passes, the current cost is not prohibitive to the general user (expressed also by low interest in cheaper bus fares) and the WVU population already rides free. With the possible exception of a vanpool commute, which should be explored, and a short-term cash for carpool type campaign, priority should not be given to this particular incentive as a long-term solution.

Research Summaries: Public Outreach – Stakeholder Interviews

Stakeholder Interviews

At the onset of the contract execution, PB worked with the MPO to identify community leaders who would best serve local interests in the TDM study process. Beginning with select representatives who are actively involved on MPO boards, representing local agencies, governments and members of WVU, the outreach was expanded to include private-sector employers and, in particular, those with a vested interest in the potential development of a TDM program due to their size and location within the community. Others, such as big box store retailers, large manufacturers and call centers situated in the study area, were also included in the outreach in an attempt to engage their involvement.

As a result of these efforts, PB staff had the opportunity to interview 15 area representatives as listed below. The purpose of the interviews was to determine the views and priority issues regarding transportation conditions in the study area and their effects on business, and to gauge the level of support from their organizations given an anticipated TDM program. The following organizations are represented in this process:

- Center for Disease Control/NIOSH
- City of Morgantown
- Downtown Morgantown
- Giant Eagle
- Monongalia County Board of Education
- Monongalia County
- Monongalia County General Hospital
- Morgantown Chamber of Commerce
- Morgantown City Bicycle Board
- Morgantown Utility Board
- Mountain Line Transit
- Mylan
- National Energy Technology Laboratory (NETL)
- West Virginia University Economic & Development Office
- West Virginia University Hospital
- West Virginia University Transportation & Parking Office

Research Summaries: Public Outreach – Stakeholder Interviews

The following information highlights the most common issues and areas of opportunity raised during the interview process:

Common Issues & Findings

1. **Congestion.** Stakeholders voice concern that congestion in the Morgantown area is the result of a number of factors including infrastructure limitations and lack of maintenance, lack of proper planning, a lack of connectivity, and continued growth in the region inclusive of WVU. While the state is the lead agency responsible for addressing roadway maintenance, congestion is perceived as a local issue. Local solutions include managing employee commute times, in particular within the Route 705 employment hub; controlling planning in the county to include requiring developer contributions towards transportation solutions/improvements/enhancements; and (frequently cited) creating stricter transportation limits on students, in particular, freshmen.
2. **Infrastructure Limitations/Roadway Maintenance.** As has been noted, the causes of congestion include insufficient levels of infrastructure to accommodate vehicular volumes as well as failure to properly maintain existing roadways. Under current conditions, any impact to travel creates gridlock as there are no road shoulders, passing lanes or, in many places, sidewalks. From a business perspective, impacts include disruption to general service deliveries and, more importantly, disruption to utility vehicles and services, emergency responders and school buses. Employees are not able to get to work for days or weeks at a time due to hazardous conditions, i.e., icy roadways during the winter. Recognizing that roadway expansion is not a viable option in most areas, it's felt that the WV Department of Highways must be more responsive to roadway maintenance and impact issues.
3. **Lack of Planning/Zoning/Development Standards.** The lack of land use planning is seen as highly problematic by stakeholders. This is viewed as having contributed to the current state of transportation in the area, and it generates worry about the fate of Morgantown's future if left uncontrolled. Although there were differences of opinion on the root cause, what was made clear was the need to educate, engage and empower the public on transportation solutions in order to garner support for projects and funding, if needed. Likewise, there is a strong cry to place responsibility on developers to minimize negative transportation impacts. For example, it was noted that some of the housing communities are operating shuttles. While seen as a positive move, there is concern that it is simply not enough. In addition, it was expressed that coordination of service should be explored between the shuttles in operation and/or with Mountain Line Transit Authority to create overall service efficiency.

4. **Student Transportation.** Another issue cited is the impact that student traffic has on roadways. Despite the routine congestion experienced during PM peak times in general, the Morgantown community reports severely higher levels of congestion when college is in session. In fact, several stakeholders stated that they plan business activities around student school schedules. Interestingly, survey results indicate that students are, in fact, the highest users of existing alternative transportation options, and they report the highest levels of interest in continued use of these modes. Presently, freshmen are encouraged not to bring their personal vehicles onto campus and are instead provided with a parking lot for their cars and are asked to use transit service when needed. This voluntary option does not prohibit vehicle travel for leisure, recreational or work-related use, which may add to the PM peak travel congestion. Transportation issues involving public school children were raised to a lesser degree. The issue here involves school start and end times conflicting with business work shifts, specifically on Route 705, and the perception that there is a high volume of children being driven to/from school as opposed to using the school bus transportation system. While reasons were not specifically stated among stakeholders as a whole for high parent transportation levels, it was learned that the reliability of school transportation could be one factor. Additionally, it was noted that, given the nature of the local infrastructure, students are unable to effectively and safely commute to school on foot or by bicycle; a fact that is not conducive to physical health or quality of life.

5. **Lack of Connectivity to Support Pedestrian and Bicycle Use.** Tied to the issue of local planning and limited roadway infrastructure is the lack of overall sidewalk and roadway connectivity in the study area for walking or biking purposes. The City of Morgantown was referred to as car-centric due to the inability to effectively park the car and walk from one end of town to the other. As a matter of safety, stakeholders mention the need to drive to different points within town as opposed to taking a quick walk, such as getting from uptown to the riverfront area. Similarly, there is a high desire to utilize bicycles to commute to work as well as for recreation, yet the lack of connectivity and roadway crossings creates unsafe conditions. (It was noted that a pedestrian plan has been established for the City of Morgantown.)

6. **Transit Underutilized.** Though public transit is viewed as moderately marketed by Mountain Line, overall it rates less than sufficient in terms of frequency of service and route coverage. The shared belief is that the service caters to students instead of the general public. Employers in the Route 705 area noted inconvenient transit stops with the closest stop cited at Ruby Memorial Hospital. Of those employers with TDM program strategies in place, the offering of federal transportation benefits to offset transit costs [for transit or vanpool] was not confirmed and, in some cases, knowledge of the benefit was limited or lacking. The general sense was that the existing service was not appealing enough to warrant greater use by employees and most stakeholders were not confidently aware of transit use levels by employees, if at all.

7. **Park-and-Rides Needed.** Almost all stakeholder discussions revealed the need to limit the entry of vehicles into the Morgantown area through the use of park-and-ride lots. They voiced the need to use the right message to motivate commuters to utilize park-and-rides, aside from the obvious need to have a transit or shuttle connector support the lot. As of this study, Mountain Line is partnering with WVU on a park-and-ride campaign that pays users $1 a day to leave their cars at the park-and-ride and take transit to work. Success of this effort will be monitored for discussion of future strategies. In addition, informal park-and-ride lots were identified during discussions, which can also be further investigated as potential options.
8. **Visible and Collaborative Leadership**. While individual stakeholders voiced common concerns and similar solutions, discussions did not reveal any concerted efforts to address transportation issues surrounding congestion in a coordinated fashion, except for a previous shuttle service coordinated among some of the stakeholders during a period of worksite construction. To some degree, there is a wait and see attitude in terms of who will lead an undertaking of this nature, yet there is also a sense that action needs to occur now. On a positive note, stakeholders appear genuinely interested in learning more about the tools that are available to support internal congestion reduction activities.
9. **Public Support.** As noted earlier, stakeholders stressed the need to ensure that the public is involved in the TDM development process, citing the previously failed levy tax as an example of a lack of public engagement in the process. There is confidence among them that, given the proper amount of public education and involvement in the decision-making process, TDM strategies have a greater chance for success. Additionally, it was voiced that the program must be well-packaged when presented. Each stakeholder expressed a willingness to support a TDM program via input into the TDM development process, internal and/or external marketing of services when developed, and consideration to fund future program strategies.

TDM PROGRAM MODELING

In preparation for anticipated TDM program development, PB staff modeled a TDM program to determine the impact of varying levels of TDM activity along with their potential impacts on trips. Key measures of effectiveness in the performance analysis included:

- Reduction in Vehicle Miles Traveled (VMT)
- Reduction in vehicular trips
- Modal shift for person throughput (the ability to move more people via high occupancy travel modes)

The principal tool used to estimate the effects of TDM upon Morgantown area travel was the Environmental Protection Agency's COMMUTER (version 2.0) model. The COMMUTER model is not a micro-simulation model with pinpoint accuracy for specific TDM strategies. Rather, COMMUTER aggregates the effects of various TDM strategies into packages and models how those effects translate into the performance metrics identified above.

Commute trips, it should be noted, generally account for less than 25% of all vehicular trips in urbanized areas, but this number may be slightly higher in Morgantown given the presence of WVU and the counting of student trips as commuter trips. Nonetheless, commuter trips account for less than one-third of all trips in Morgantown. As such, affecting residential and visitor trips is important towards reducing the overall impact of vehicular use growth on traffic in the region; yet the COMMUTER model cannot evaluate the success of these types of strategies upon regional travel metrics. The COMMUTER model only evaluates work commute trips. For universities, including WVU, this means that staff and faculty trips to work are evaluated but student trips are not.

Packaging TDM Strategies

A variety of strategies can be used to influence the demand for travel in the Morgantown area. Many TDM efforts are already offered through Mountain Line and WVU. These efforts are already accounted for in regional travel metrics and are not duplicated in the COMMUTER analysis.

The following scenario packages identify the range of TDM strategies that were examined in greater depth for Monongalia County. The study modeled three levels of potential application for TDM strategies. Each level demonstrates both the intensity of application, policy foundation, and resource commitment needed, with increasing expectations for employer participation.

Research Summaries: TDM Program Modeling

The three levels are defined as:

- Basic. This package would utilize existing regional financial and staff resources to implement the scenario. Most elements that fall under "basic" implementation have already been successfully applied at WVU, so this implies extending many of the existing regional TDM services to select employers in the region. Considered a baseline, the Basic TDM package presumes additional attention is placed on outreach and participation, without providing additional TDM infrastructure or services.
- Moderate. This package brings new, low-cost/high-value strategies and adds resources to the basic services. These resources may come from either the public or private sectors. Generally, moderate strategies tend to be those that are accomplished within existing statutory guidance, but require a formal commitment of resources and mindset to demand management. Employer participation is more expansive than the Basic's "limited" range of participation, and usually comprises up to 35% of the regional employee population.
- Aggressive. This package moves beyond current experiences from around the country to create a new level of implementation. In some cases, concepts may be experimental or require new statutory authorization. In many regards, an aggressive stance would place the Morgantown region at the forefront of demand management for similarly sized regions, and competitive with progressive demand management urban areas such as San Francisco/Oakland, Seattle, and Washington, DC.

It should be noted that the packages are applied in the model to the Morgantown region as a whole, without consideration to sub-regional differences. This is an important notation, as one of the principal efforts for Phase 2 of the Morgantown TDM effort is to provide eventual TDM guidance and implementation strategy for different employment centers in the area. For example, it is likely that TDM options for Westover will be different from those recommended and applied in the Hospital area, due to different commuter services, markets, and expectations.

Moderate TDM Package

The following is a list of possible moderate TDM applications (with differing rates of adoption and deployment across employment centers in the region). It should be noted that many of these strategies are already pursued to some extent within the Morgantown region. What makes these strategies "moderate" as opposed to "basic" is the level of adoption by employers (modeled at 20 to 35% of regional employers [10+ employees]), which, in turn, requires a substantially greater level of effort in promotion and enrollment:

- Promote and assist use of pre-tax incentives: employers subsidize and/or establish HR mechanisms for the use of pre-tax salary set-asides to assist in paying for employees' commute-related expenses (vanpool and transit: $230 and bicycle: $20 per month).

- Trial bus/rail transit passes: employers provide a free pass (weekly or monthly) to get employees to use transit or rail as a commute option. WVU already offers this program, so modeled passes are limited to new employer participants.
- Preferential parking for carpools/vanpools: employers and property managers reserve parking spaces located closest to the building for carpool and vanpool commuters. A few employers in the region already offer comparable strategies. This strategy may include not only individual worksites but parking districts, such as in downtown Morgantown.
- Basic on-site marketing for transportation: posters, flyers, and newsletters are used to promote commute mode alternatives on-site.
- Site improvements: provide or upgrade bike racks, select high-traffic sidewalks, and transit stops.
- Monthly incentives/promotions: commuters who take advantage of alternative modes, including telework, are given either monetary or product incentives, based upon performance metrics.

Aggressive TDM Package

The aggressive level goes beyond the moderate TDM strategies, both in types of strategy applied and in the level of employer dedication (40 to 55% of employers [10+ employees]) to implementing the strategies:

- Parking cash-out/transportation allowance: Parking cash out offers commuters the cash equivalent of subsidized parking if they use alternative travel modes. Transportation allowance is a financial payment provided to employees instead of parking subsidies.
- Inclusive bus/rail transit pass program: Free transit or rail passes to all employees within the employment zone.
- Financial incentives for alternative commute trips: Provide financial incentives to all employees who commute using an alternative mode.
- Telework program promotion and assistance: Aggressively incentivize and encourage employers to adopt work from home or other locations for employees.
- Improved transit service: More frequent/direct service along existing routes to employment centers. New routes, although certainly an aggressive TDM strategy, were not included due to model constraints.
- Network improvements: Create a cohesive network of sidewalks and bike lanes surrounding key employment areas.
- Trip reduction/incentive ordinance: Provide incentives to employers who achieve an optional trip reduction goal.
- Onsite employee transportation coordinators (ETC): Provide help and information to individual employees on the benefits of commute alternatives.

Research Summaries: TDM Program Modeling

Low and high employer participation scenarios were modeled for each of the TDM package levels, which, in turn, provide peak-period commute trip and VMT reduction ranges for each package. These scenarios reflected different employer participation rates and eligibility rates for alternative work schedules and telework in addition to strategy performance. The eligibility rate for alternative work schedules and telework ranged from 5% to 40%. Adjustments only pertain to the participation rates of employers directly. The COMMUTER model adjusts the results based upon office and non-office employment and, as such, the effectiveness on employees is reflected in the results.

Model Results

Prior to showing the model results, it is helpful to review some notes on the application of these findings:

- Commute trips only. Trip reductions were modeled against commute trips only, with the basis being the U.S. American Community Survey (2006 to 2008 Journey to Work data) for Monongalia County. As a result, the following results provide commute trip reductions for university faculty and staff, but not students.
- Parking charges. There are existing parking charges in some of the employment zones around Morgantown. The effect of this existing parking pricing is an amplification of pricing effectiveness in the model, as the model assumes no parking costs when pricing is imposed in the aggressive package. As a result, in order to reduce the net impact of parking pricing and/or parking cash-out in the aggressive packages, parking pricing rates were lower than market rate.
- Range of effectiveness. From a forecasting perspective, the model represents 1) adoption rate of TDM by employers, and 2) applicability of TDM. As the COMMUTER model already adjusts results based upon office and non-office employment, much of the effectiveness on employees is already reflected in the results. These adjustments only pertain to the participation rates of employers directly.

The model results show two ranges for each package, corresponding to the lower and higher ranges of employer participation. For all packages, the “Plus” package indicates the highest range of employer participation.

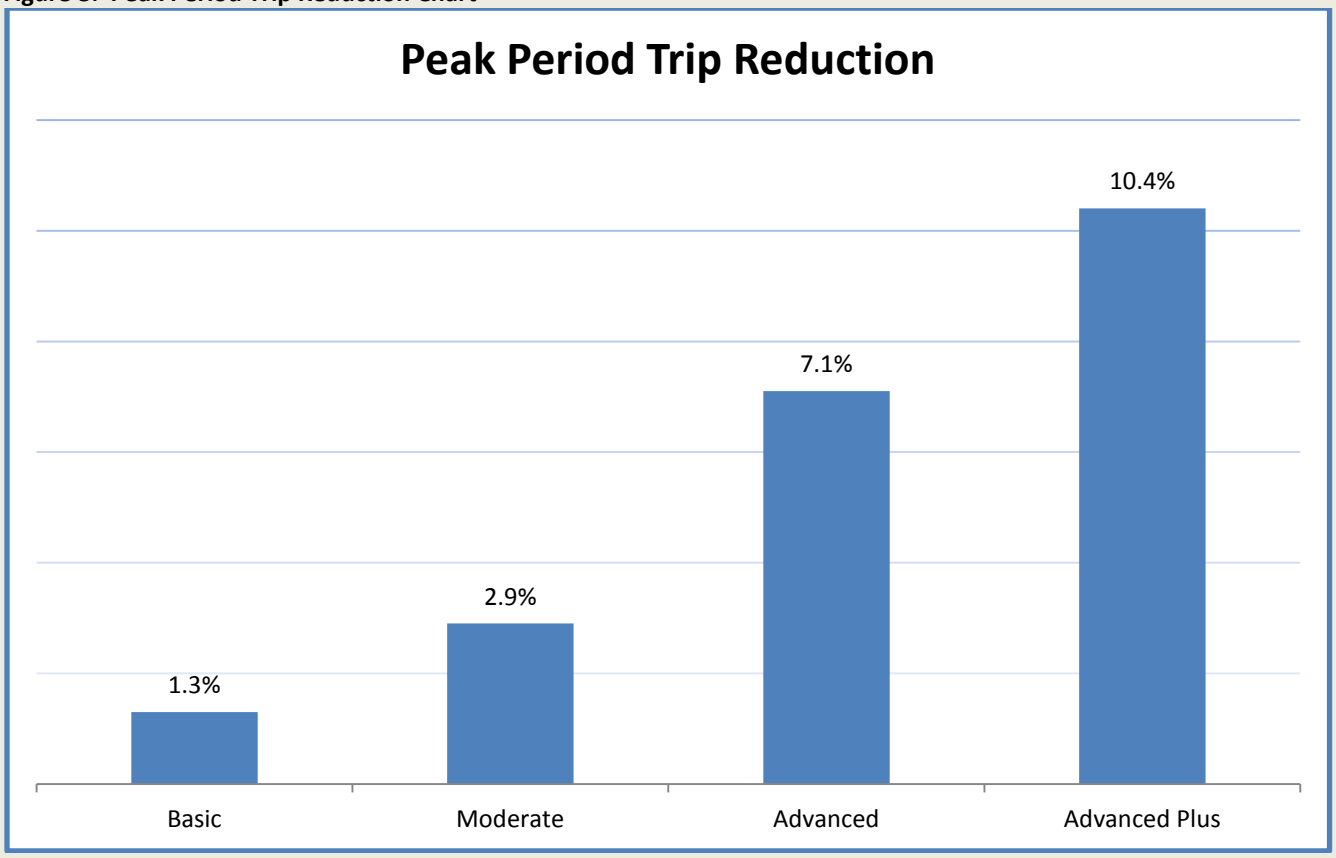
The variation in performance of the TDM program between employment areas is greater in the aggressive packages than the moderate packages. This is to be expected, as the moderate packages involve primarily “doing more with what you already do,” whereas the aggressive packages provide new strategies and actions.

Research Summaries: TDM Program Modeling

Peak Period Trip Reduction

Moderate implementation of TDM could reduce up to 3% of peak-hour vehicular trips in Morgantown, whereas aggressive implementation could yield up to 10% reduction.

Figure 8: Peak Period Trip Reduction Chart

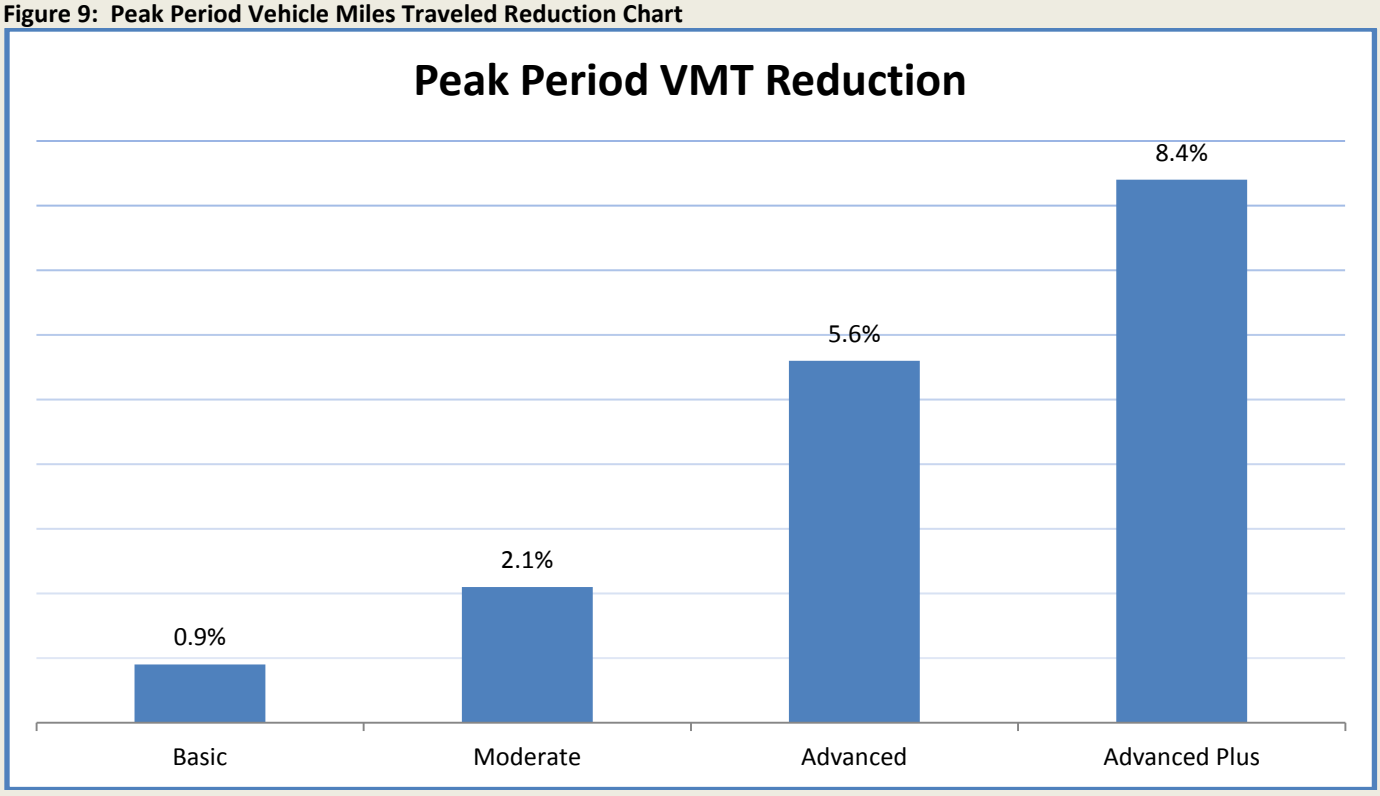


Research Summaries: TDM Program Modeling

Peak-Period Vehicle Miles Traveled Reduction

Moderate implementation of TDM could reduce up to 2.5% of peak-hour VMT in Morgantown, whereas aggressive implementation could yield up to an 8.4% reduction. The reason the percent reduction of mileage is less than trips are is that the reduction in congested miles of travel for each participant is high in relation to overall VMT in the region.

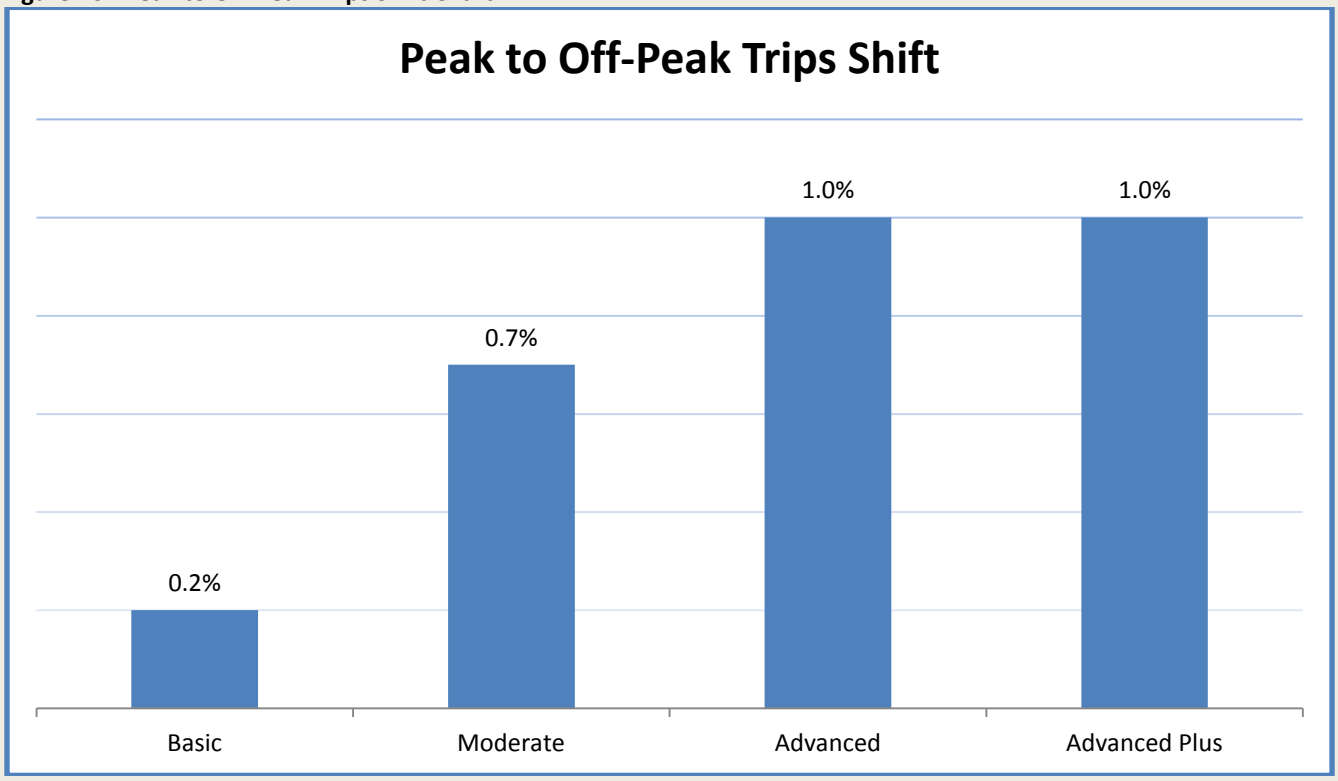
Figure 9: Peak Period Vehicle Miles Traveled Reduction Chart



Shift in Peak to Off-Peak Vehicular Trips

Moderate implementation of TDM could induce a shift of up to 0.7% of peak to off-peak hours for travel in Morgantown, whereas aggressive implementation could yield up to 1.0% reduction. The opportunity for off-peak shifting is limited within the model's parameters (which presume a longer duration of congestion than the relatively short duration of severe congestion in Morgantown). This indicates a realistic expectation that off-peak shifting would be higher in all package scenarios than that indicated by the model.

Figure 10: Peak to Off-Peak Trips Shift Chart

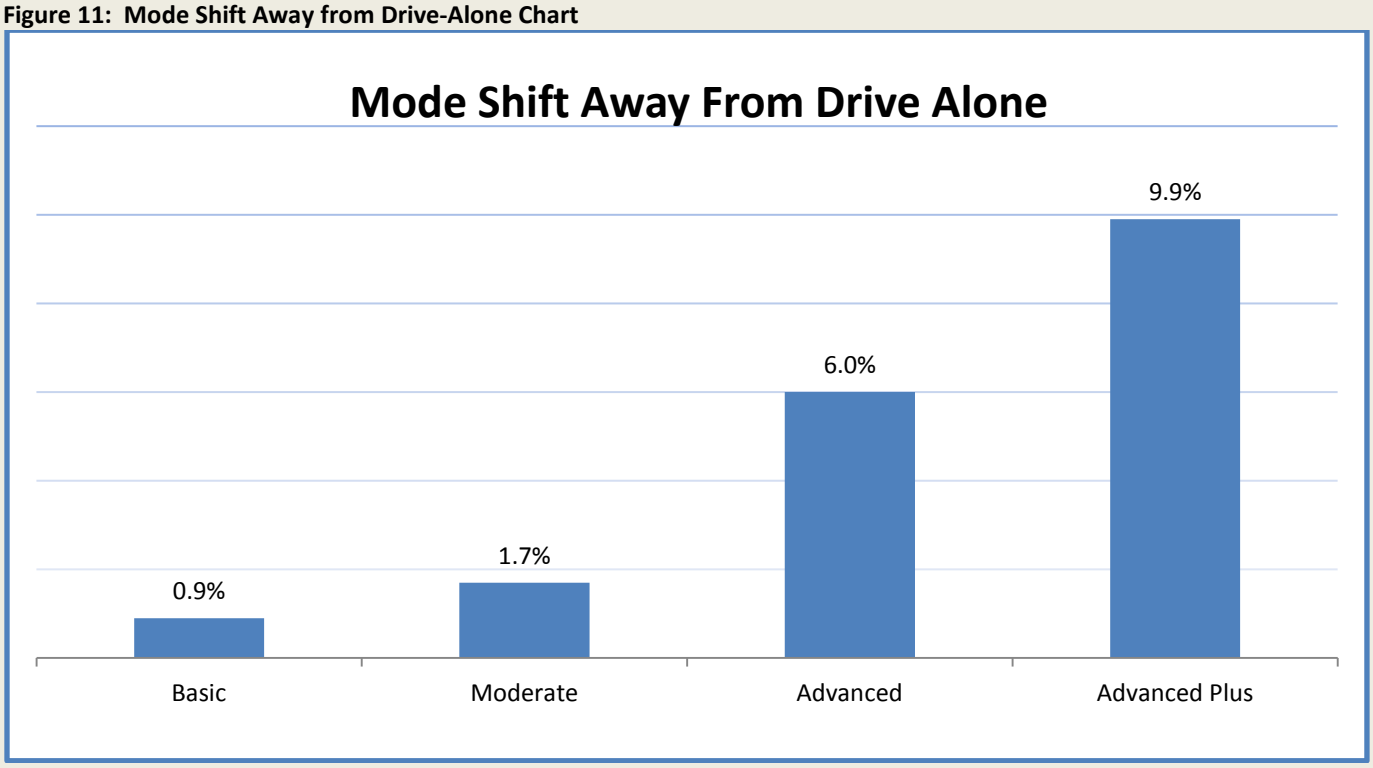


Research Summaries: TDM Program Modeling

Mode Shift Away from Drive Alone

Moderate implementation of TDM could induce a shift of up to 2.2% of peak-hour single occupant vehicle trips in Morgantown to other modes of transportation, whereas aggressive implementation could yield up to 10% reduction. Mode shifts in moderate scenarios were primarily oriented towards carpool (0.6%), transit (0.6%), and bicycle (0.5%) trips. In aggressive scenarios, carpool trips carried a greater number of shifted trips (6.1%), with transit (1.9%) and bicycle (1.1%) carrying lesser proportions. This indicates that, as the region moves from a moderate platform to an aggressive program, accompanying operational improvements on the roadway network to facilitate carpool and transit trips may be appropriate.

Figure 11: Mode Shift Away from Drive-Alone Chart



Conclusion

In order to achieve the desired impact of a 3% vehicle trip reduction for the region, via a shift from drive-alone to other modes or averted peak-hour trips through alternative work arrangements, the model results suggest that a moderate program package would be appropriate for the Morgantown area.

The cost of deploying a moderate program will vary greatly based upon the desired rate and size of employer participation, in-kind resources provided, and opportunity-based delivery of capital projects.

Annual costs could be estimated as such for a moderate program in Morgantown at build-out (costs would ramp up in initial years):

- Staff (up to two full-time equivalents [FTE] for program promotion): $110,000 to 150,000
- Marketing collateral and related resources: $35,000 to $75,000
- Transit passes (face value): $70,000 (based on modeled outputs for moderate plus)
- Financial incentives and promotional expenditures: $50,000 to $100,000

Capital improvements would vary greatly based upon the nature of the expenditure. For example, providing preferential parking spaces could be accomplished by paint, signage, or simply policy within a worksite. Sidewalk and bus stop improvements may be implemented simultaneously with transportation enhancements and capital improvement program projects in Morgantown at appropriate times for maintenance.

OPTIONS FOR TDM PROGRAM

Suggested TDM Strategies

The majority of commuters and businesses have adapted to the existing "Morgantown transportation lifestyle" by tolerating periods of severe travel delays, conducting business activities around peak travel times or student class schedules, driving from point A to point B rather than walking because of safety issues, and accepting the consequence of being stranded at home or on the roadways when weather or other conditions impact travel. As noted throughout the study, the reasons can be attributed to a lack of service availability and, to a lesser degree, a lack of awareness of current services along with perceived limited resources. In order to address the goal of the study, which is reducing congestion, what emerges as the course of action towards TDM program development for the Morgantown area will be expanding transportation accessibility of existing services and providing new services in the study area. dditionally, awareness must be increased of all services across the board. A second survey revealed a lack of employee awareness in companies offering in-house transportation demand management strategies.

The following TDM strategies present opportunities to reduce drive-alone vehicle trips. These strategies are not prioritized:

- Carpool Program Coordination/Expansion
- Vanpool Program
- Park-and-Ride/Park-and-Pool Lots
- Transit Enhancements
- Federal Transportation Benefits
- Carsharing Expansion
- Emergency Ride Home
- Employer Services Assistance
- Telework, Compressed Work Week & Flextime
- West Virginia University Commuter Programs

Related strategies requiring initiation and leadership from other community entities:

- Traffic/Motorist Information Services
- Pedestrian Access
- Land Use
- PRT Expansion

Options for TDM Program: Suggested TDM Strategies

Carpool Program Coordination/Expansion

The reported use of carpools was relatively low (8% on average), yet it rated high (30%) from all survey respondents as a mode of willingness to try. Several employers, including WVU, already offer this option as well as provide preferential parking spaces on site for employees who carpool. Altogether, the levels of participation could be significantly higher than reported given there are several major employers situated within 4 miles of one another, excluding WVU and NETL. To illustrate the potential for shared-ride services, employee zip code data was obtained from Mylan, NIOSH, WVUH and Mon General, each located in the Route 705 hub representing nearly 9,500 employees (Figures 12, 13 and 14). By expanding or merging the ridematching side of the service to all commuters in the region, including WVU, the pool of rideshare opportunities becomes greater, thus creating increased opportunities for carpools, vanpools and more. For example, if an employee cannot locate a fellow co-worker with whom to carpool, there may be an employee at a neighboring worksite or one passing the employee's worksite on a daily basis that presents new rideshare opportunities. Experience has proven that, given the right amount of personal value, determined commuters can be very creative at sharing a ride with others; the key is to provide the right set of tools and guidance to allow them to make their decision. Employers can encourage this mode shift by rewarding employees for making smart commuting choices and creating new incentives/rewards as needed.

From a data management standpoint, some employers may already have and/or want to maintain their own internal carpool program and keep tabs on employee commute activity for incentives and reporting purposes. Today's rideshare technologies allow for customized employer pages that are tied into a regional rideshare database for these particular benefits.

Vanpool Program

Like public transit, vanpools have the potential to substantially reduce the number of vehicles on the road. The difference, however, is that vanpool programs benefit commuters traveling farther distances both in terms of cost and convenience, depending on level of transit service and connections needed for a public transit commute. In addition, some commuters prefer the intimacy and control of a vanpool commute over a public transit commute, reiterating the importance of expanding commute choice offerings.

To address cost-effectiveness of the vanpool commute, targeted commute trips are generally more than 15 miles one way. Using employer data collected from the Route 705 hub employers, 19 zip codes were identified as having 50 or more employees commuting to the same general destination who meet this minimum one-way vanpool distance criteria (Figure 14). As a mode of willingness to try, WVU employees expressed high interest in vanpooling, perhaps as a result of familiarity with it via the WVU WeGo program, whereas non-WVU commuters rated it low.

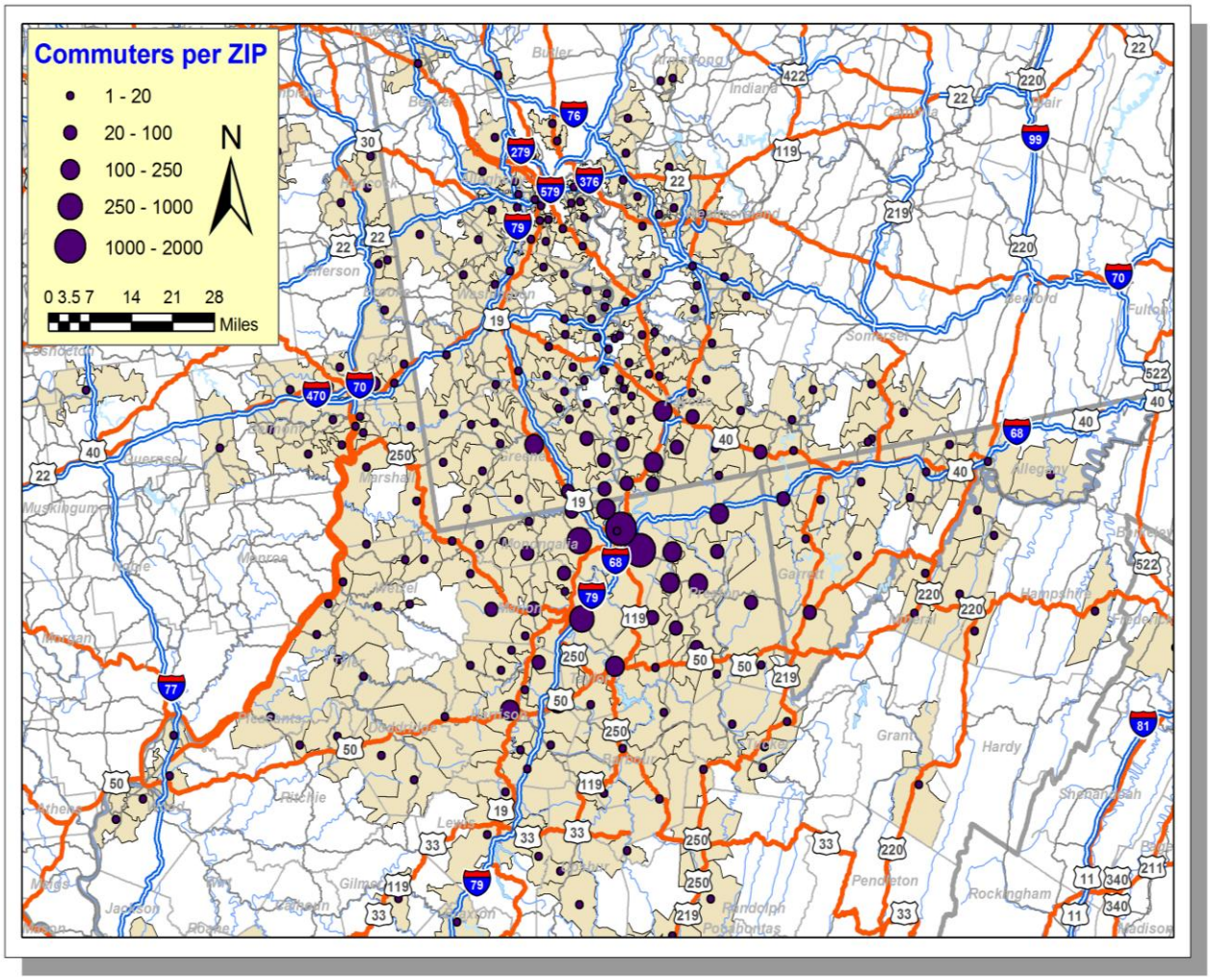
Options for TDM Program: Suggested TDM Strategies

Given the congestion in the study area, density of employment, and commute trip data identifying a target market of commuters, it is suggested that vanpooling be offered as a TDM strategy. Success of vanpooling within the expanded region is evidenced by the Pittsburgh commuter rideshare program www.CommuteInfo.org, which reports 43 vanpools carrying 513 employees into their serving area for work. The program serves 10 counties in the Southwestern Pennsylvania Commission region, with the average commute distance between 30 and 40 miles and 16% of van and carpoolers commuting from out of state (Ohio and WV).

Generally speaking, vanpool formation can take some time, usually requiring a few meetings between interested employees and a vanpool representative and/or TDM business outreach representative to ensure understanding and comfort with the overall process, obtain rider (especially driver) commitments and complete the administrative details. This requires employer cooperation in terms of allowing this interaction to take place (preferably during work hours) and through promotion of the service. Financial support in the form of federal transportation subsidies to offset the cost of vanpool commuting as well as the availability of an emergency ride home benefit can be a determining influence in the decision to participate. The good news is that, once formed, joining a vanpool is easy and, surprisingly, vanpools tend to stay operational for years, providing long-term benefits to employers facing parking capacity issues.

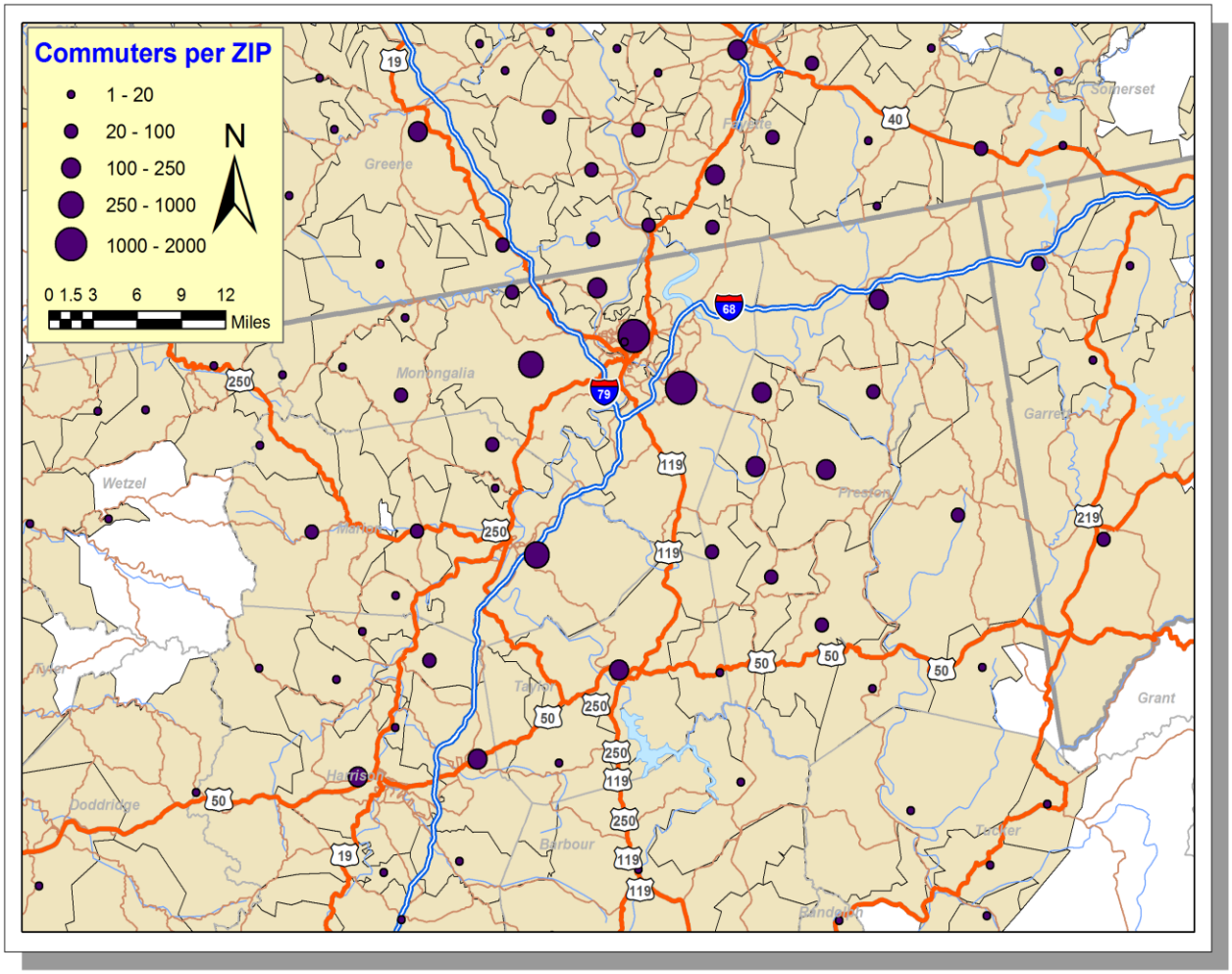
Options for TDM Program: Suggested TDM Strategies

Figure 12: Route 705 Employee Home Locations



Options for TDM Program: Suggested TDM Strategies

Figure 13: Route 705 Employee Home Locations/Monongalia County Residents



Options for TDM Program: Suggested TDM Strategies

Figure 14: Route 705 Employee Count by Zip Code (>50 employees)

City	Zip Code	Employees	Distance to Route 705 Hub (mi.)
Morgantown, WV	26508	1,954	
Morgantown, WV	26505	1,599	
Fairmont, WV	26554	936	22
Morgantown, WV	26501	806	4
Bruceton Mills, WV	26525	233	23
Smithfield, PA	15478	178	17
Maidsville, WV	26541	159	8
Uniontown, PA	15401	154	27
Waynesburg, PA	15370	150	26
Grafton, WV	26354	148	28
Masontown, WV	26542	119	20
Kingwood, WV	26537	117	28
Bridgeport, WV	26330	115	35
Reedsville, WV	26547	109	22
Clarksburg, WV	26301	102	40
Port Marion, PA	15474	95	9
Fairview, WV	26570	93	28
Carmichaels, PA	15320	91	23
Rivesville, WV	26588	89	19
Masontown, PA	15461	68	19
Independence, WV	26374	61	19
Mount Morris	15349	59	12
Albright, WV	26519	55	29
Shinnston, WV	26431	54	38
Washington, PA	15301	50	46

Options for TDM Program: Suggested TDM Strategies

Park-and-Ride and Park-and-Pool Lots

The difference between the two strategies is that park-and-ride lots are generally served by transit, whereas park-and-pool lots serve carpooling and vanpooling commuters who leave vehicles behind. The use of these strategies came up numerous times as a likely solution to intercept traffic entering the Morgantown area and, in particular, the most congested areas of town. What needs to be determined is at which locations park-and-ride usage would be most productive and, more importantly, available for use. Review of the employer zip data provided during the study indicates a need for park-and-rides to accommodate commuters from Fayette and Green Counties, Pennsylvania, and also along some other major corridors that lead into the study area. In order to support use, resources such as a ridematch service and an emergency ride home benefit, for example, should be available and included in the overall marketing effort.

Transit Enhancements

The overall short commute distances in the study area, desire for park-and-ride lots, dense employment centers, including influx of patients and visitors to the medical centers, proximity and existing relationship with the university population, and overall high level of interest reported in transit as a travel option position transit service as the likely top TDM strategy for the area. However, certain changes in mindset and operations need to occur, such as the depiction of transit in the *1998 City of Morgantown Comprehensive Plan*, "public transportation plays a small but important role in the regional transportation system. Two groups are the primary users of the transit service: (1) university students, and (2) the transportation disadvantaged, particularly low-income and elderly residents." Whether by design or circumstance, transit's value to the community at large is minimized. Transit needs to be publicly positioned as a major asset to the community in solving congestion problems inclusive of serving what might be labeled as the "advantaged" choice rider. As is already recognized by some in the study area, in order to increase ridership, a concerted effort needs to be made to entice choice riders away from what they view as the only convenient option available—driving alone. This can be accomplished through an investment in greater frequency of service, expansion/enhancement of routes and solid marketing efforts. The inclusion of an emergency ride home benefit giving first-time users peace of mind will also be important in gaining first-time riders.

Current barriers identified in the study toward meeting these objectives involve funding as well as the local transit agency lacking a business audience. Given the agency's concern about raising fares in recognition of existing service shortfalls, other means of sustainable revenue need to be identified, and the agency is comfortable in taking a creative approach towards that end. However, the discussion included other funding opportunities that have not yet been explored but should, such as from those outlying communities currently served by transit**,** cooperative arrangements with developers, as well as support from the local business community. The need to establish a business audience may, by default, be an outcome of the overall TDM program design moving forward.

Options for TDM Program: Suggested TDM Strategies

Working in close collaboration with the business community will provide greater insight into how to best serve employee commuters as well as meet overall public service obligations.

It is typically through this working relationship that transit improvements in the form of schedules and routes are identified, pilot services are formed and funding options are explored. In addition, building a coalition of businesses that are willing to work together to support improved service, thereby guaranteeing increased ridership, can go a long way when approaching the state for an increased share of federal or state funding. Lastly, several areas of opportunity arose during the study process that could be initiated sooner rather than later, and this involves marketing existing service. Several questions that should be explored are: Is information about service abundant, clear and targeted? Is the information appropriately distributed within the community? How is response to the information gauged? What interaction does transit staff have with the public, outside of service change hearings, that allow for a personal interface regarding an existing or potential transit commute? Finally, what efforts have Mountain Line undertaken with current riders to use them as ambassadors to tout their personal transit experience?

Federal Transportation Benefits

Although transit fares in the local area are not cost prohibitive, the inclusion of a transit benefit is worth exploring to support those who may utilize intercounty/state transit service, make several transit connections, or wish to vanpool. The benefit offering will also be useful for downtown employers who can help alleviate the parking shortage by offering a parking-cash out program, essentially providing a transit subsidy to employees who forgo the use of a downtown parking space. Present limits under IRS regulations are $230 per month for transit/vanpool. Bicyclers are also eligible to receive $20 per month for their commute; however, the two cannot be combined.

Federal transportation benefits can only be offered by employers. Implementation of this strategy generally requires educating employers on the overall benefits process and should include a marketing element as well. Federal employees are also eligible for these benefits via Federal Workforce Transportation Executive Order 13150.

Options for TDM Program: Suggested TDM Strategies

CarSharing

Carsharing is presently offered through WVU's WeGo! program. Usage data provided by WVU's Transportation & Parking office for a 5-month period suggests an average of 1 hour of use per month per member (Figure 15). Though this alternative was not posed as a transportation option "of willingness to try" on the survey, there remains an untapped opportunity for greater use of the service within the Morgantown community. Naturally, vehicle quantity and positioning would need to be determined. However, from a business perspective, enabling employees convenient access to a shared vehicle during work hours is one step towards helping them cut the cord in regard to needing their personal vehicle at the worksite.

Figure 15: WVU Car Share Usage (2009-2010)

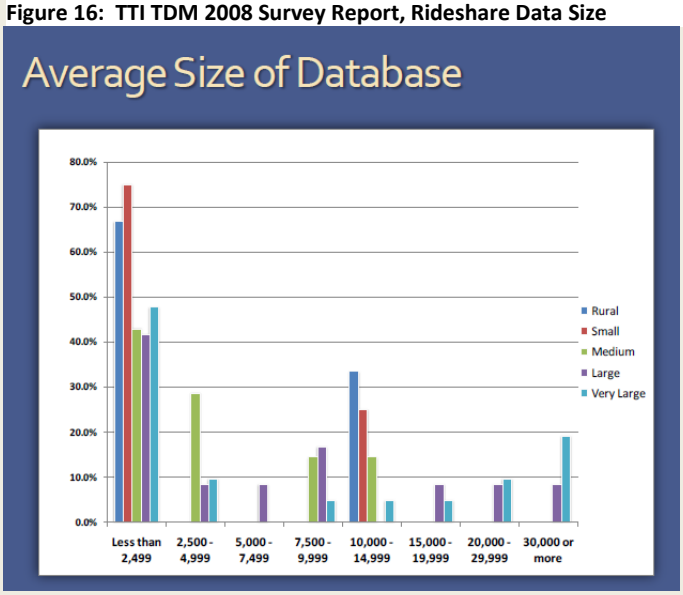
	Hours Used	Approved Members	Pending
Sept. 15 – Oct. 14	8.5	26	62
Oct. 15 – Nov. 14	82	N/A	N/A
Nov. 15 – Dec. 14	52.5	53	91
Dec. 15 – Jan. 14	101.5	54	91
Jan. 15 – Feb. 14	87	60	92
Feb. 15 – March 14	55.25	70	100

Expanding service to the community at-large (regardless of employer locale) underscores the community's commitment to quality of life initiatives as well as provides greater transportation accessibility for all. This strategy will be explored through WVU's recent change of service providers for its carshare program, which includes expansion of service within the community.

Emergency Ride Home Program (ERH)

One of the biggest barriers to commuters giving up their personal vehicles for 8 hours a day is the "what if" scenario: "*What if my kids get sick?*" "*What if I have to stay at work late?*" "*How will I get home?*" This is a valid concern and, luckily, TDM programs across the country have a solution known as the emergency ride home benefit or guaranteed ride home. Survey takers responded to this particular service to a slightly lesser degree than others; however, more information about the benefit may have resulted in a higher rating. Regardless, the inclusion of this benefit to support ridesharing commuters comes with high recommendations.

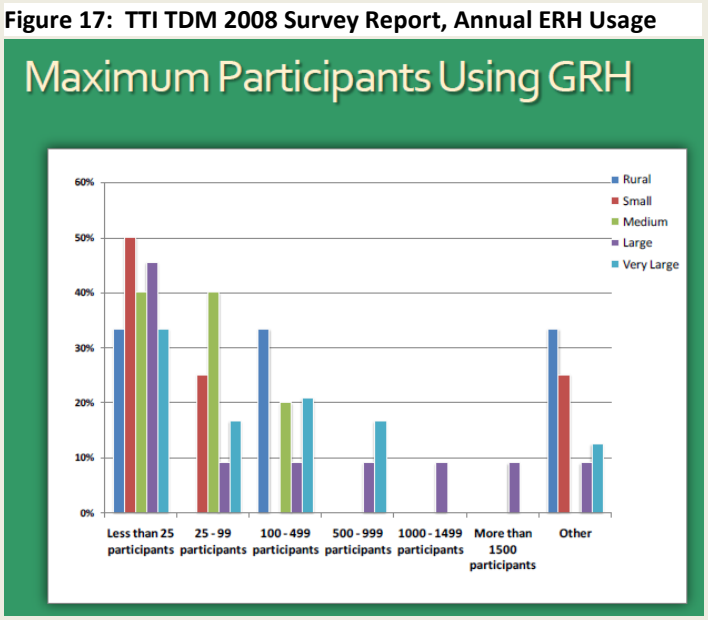
Figure 16: TTI TDM 2008 Survey Report, Rideshare Data Size



Industry data and first-hand experience solidly confirm that this particular benefit is oftentimes a determining factor in taking that first step to a new way of commuting. The peace of mind it provides to commuters, resulting in desired mode shifts, far outweighs the actual cost of service. As reported in an earlier phase of the study process, the average annual use reported from programs in the US is roughly 10% of qualifying registered users (Figures 16 and 17).

Benefit development will need to take into account eventual TDM program structure, software capabilities, qualifying modes, the availability of local transportation service providers and administration/payment process.

Figure 17: TTI TDM 2008 Survey Report, Annual ERH Usage



Employer Services Assistance

One of the greatest opportunities that exists for short -and long-term success of a TDM program in the study area is the role of Morgantown employers and, in particular, those located within critically congested areas. The study revealed that several employers included within the stakeholder outreach have TDM worksite strategies in place for employees. What is not known at this time is the scope of activity offered throughout the study area among employers not interviewed through the stakeholder interview process. To enhance program results, there must be an emphasis on achieving targeted trip reduction goals along with coordination between employers to maximize participation in TDM activities, which is currently lacking. This can be accomplished via local ordinance or through a commitment from the business community to aim for the Best Workplace for Commuters National Standard minimum of a 14% worksite vehicle reduction or other target. On a positive note, both employers with and without programs expressed eagerness to learn more about certain strategies and how other peer companies execute TDM efforts. Thus, the allocation of a local TDM business outreach representative is warranted. The role of this representative would be to essentially create an inventory of employer TDM activities, identify unmet transportation needs and work with employers to develop common or worksite-specific solutions and goals, as appropriate. Additional tasks should include transportation benefit assistance, performance evaluations, and local and national recognition for participating businesses. As stated previously, this representative would also act as a liaison or broker between employers and other local transportation entities to create new transportation services. One of the most critical roles a TDM representative can play is to support the marketing effort of services in general.

Options for TDM Program: Suggested TDM Strategies

Telework, Compressed Work Week and Flextime

One of the greatest challenges faced in the study area concerns the Route 705 hub, where it's been suggested to coordinate work times. Ironically, and perhaps unknown to many, several employers currently offer telework for a segment of employees, which reduces vehicle trips altogether, while others have a flextime policy in place.

It was found that most employees who offered flextime opt to arrive at work very early in order to leave early, generally stated as around 3 P.M. Unfortunately, this schedule conflicts with school end time as well as Mylan's shift change, exacerbating the hub's congestion situation. It seems that the greatest potential for success with this strategy lies in the short-term with those employers who are not committed to contractual work shift obligations or other state control. Taking a close up and comprehensive look at all commute trips, existing schedules, and employer policies on the issue is suggested to determine how to redistribute vehicles during the work day.

West Virginia University Commuter Programs

Leveraging WVU's existing participation in certain TDM activities could strengthen the launch of a new regional TDM program. The WVU population is educated on the types of strategies that are being sought for the public at large, and this audience may be more willing to explore a regionalized TDM approach that broadens opportunities for personal mode shift. In addition, those currently using specific strategies could serve as spokespersons to visibly position WVU as a leader in the fight to address local transportation issues. WVU is positioned to help generate trip reduction beyond that of just the campus population through expansion of its services such as the carshare program. It is recommended that, as a future program is developed, WVU's involvement in each strategy be carefully considered.

Options for TDM Program: Suggested TDM Strategies

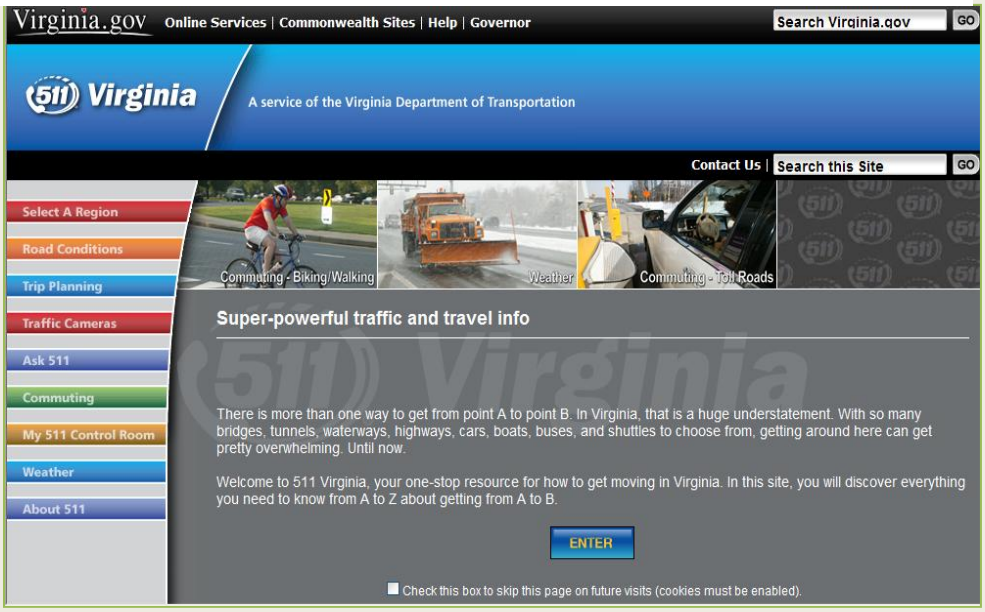
Related Strategies Requiring Initiation and Leadership from Other Community Entities

Traffic/Motorist Information Services

Interestingly, one of the solutions that arose in discussions with stakeholders and other community feedback was the positive results obtained from the parking arrangement in place for WVU game days. The community recognizes this as a successful strategy and one that should be reviewed as an option to mitigate traffic on a more routine basis.

The timing of traffic lights was also seen as problematic. This issue is being addressed by the West Virginia DOH and, as such, information on the process is worthy of communicating to local commuters who have already voiced a lack of support from higher levels of transportation authority as it relates to roadway maintenance.

Figure 18: Virginia 511 Website

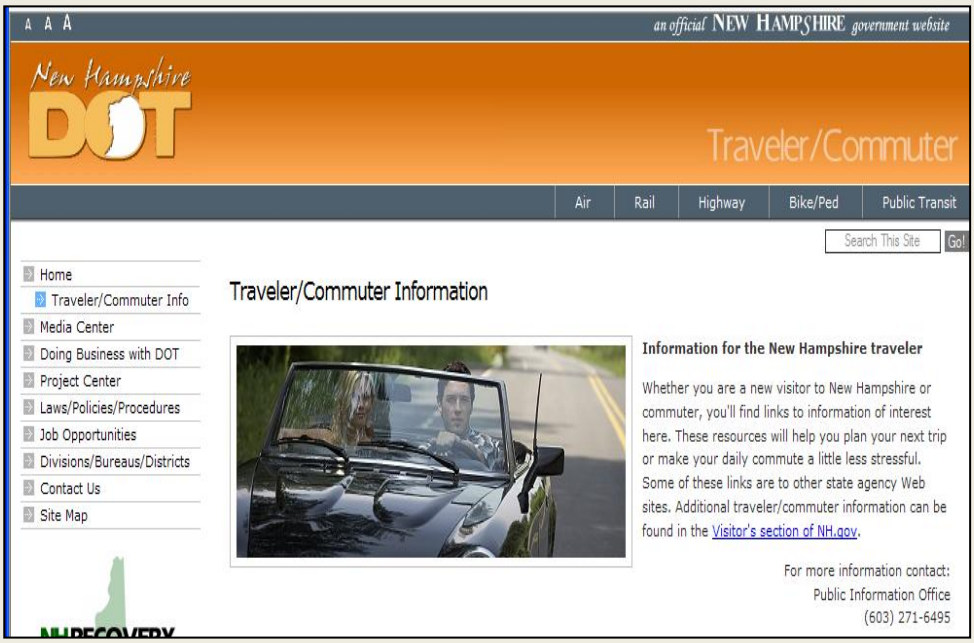


On this note, and from an intelligent transportation systems (ITS) perspective, one strategy for consideration is for the Department of Transportation/Department of Highways to put real-time traveler information into the hands of system users. Many DOTs have adopted real-time traveler alert systems that the public can opt-into, such as email and text alerts, while some states work in tandem with a 511 program (Figure 18), the Federal Communications Commission's (FCC) designated nationwide three-digit telephone number for traveler information. Established in 1999, 511 services vary widely both by provider (ranging from state DOTs to local transportation and transit agencies) and by type of information provided (from traffic delays and weather to transit and tourism information). West Virginia is listed on the www.deploy511.org website as having "no deployment currently planned."

Options for TDM Program: Suggested TDM Strategies

The ability to advise the public of impacts to the regional transportation system, whether it be closures, flooding, construction delays, transit service rerouting or otherwise, provides the opportunity to communicate alternatives that empower travelers to make better commuting decisions. PB could not readily locate such a source on the existing WVDOT website or via another community resource**.**

Figure 19: New Hampshire DOT Website / Traveler Commuter Information



Until a TDM program is designed and operational, what needs to be made available to the public is a collective and systematic means to deliver information about existing services. It is suggested that the DOH or Monongalia County create a webpage dedicated to all available transportation alternatives, similar to other DOTs (Figure 19). Nearly 50% of respondents to the second survey indicated the internet as their source of travel information, which further supports a movement towards this type of strategy. As TDM strategies become fully developed, so too will the detailed marketing efforts associated with them.

Pedestrian Access

The high walk mode activity in Morgantown (per US Census), in addition to the proximity of employment centers to retail centers, PRT stations, and other areas of interest, warrant prioritization of connectivity as a key strategy for the Morgantown area. The City of Morgantown is actively addressing pedestrian safety and access via the *City of Morgantown Pedestrian Safety Board's Pedestrian Safety Plan* (11/2009), which outlines a prioritized plan of action for the future. However, no formal planning effort was identified on behalf of the county or state effort to improve pedestrian access in the remaining study area. Considered in the design should be transit stops or pullouts and visible pedestrian crossing locations, which will provide a comfort level to commuters who wish to utilize public transit but cannot identify a safe access point.

Options for TDM Program: Suggested TDM Strategies

Land Use

The pattern of development in the study area is a source of local conflict and commonly referred to as the key cause of the existing transportation problems. Due to a lack of zoning laws within Monongalia County, development is occurring at a pace and in locations that are currently not supported by transportation services. Zoning regulations are the principal and most powerful way that land use jurisdictions can control land use. By regulating the density, type, and design of development, agencies can shape the land uses within their boundaries[3]. As such, it is recommended that local transportation and governmental entities work together towards agreeable solutions for the benefit of the community in the long term. Many areas actively involved with TDM have recognized the relationship between land use and transportation demand and have worked to institute policies that create favorable outcomes and, in many cases, funding sources to support needed transportation improvements. From requiring developers or companies to have approved traffic mitigation plans, to establishing ordinances requiring property managers to promote transportation alternatives to their tenants, communities are working together to sustain a desired quality of life.

West Virginia University PRT

The PRT system is recognized as a valuable resource in the local community due to the benefit it provides in reducing personal vehicle travel for users. As a result, expansion of service and more convenient stations were commonly expressed as desired amenities to serve the primary and intended audience of WVU users. The Mountaineer Station's Intermodal Center is a means toward attracting more PRT use by the public. Despite the current level of positive ridership, there was concern of the lack of reliability and/or real-time information available to users during service interruptions. It is through the *PRT Facilities June 2010 Master Plan,* recently conducted by Gannett Fleming, that these issues as well as long-term sustainability of PRT and expansion of service are being addressed. The Master Plan study data identifies most users as WVU freshman and sophomores traveling "to and from somewhere on campus." Therefore, if the desire from the local planning community as part of this TDM alternatives study is to build ridership from the non-WVU population, a concerted effort will need to be made to identify potential users for marketing purposes in addition to improvements outlined in the study.

[3] **Handbook on Integrating Land Use Considerations into Transportation Projects to Address Induced Growth**

PROJECT ORGANIZATIONAL SCENARIOS

Given the feasibility of the Morgantown area TDM program, the next step is to identify a customized organizational structure for a TDM program that meets the needs of the community and the program's sponsoring agencies: Greater Morgantown Monongalia Metropolitan Planning Organization, West Virginia Department of Transportation, Mountain Line Transit, and West Virginia University. Inherent in the discussion is how the organization could and should be funded with an eye towards programmatic sustainability. This section of the final report examines options for providing a TDM program in Morgantown. In addition to the four traditional organizational models, PB offers an additional public-private partnership concept that may be worth exploring.

There are more than 200 operating TDM organizations in the United States. Some are Transportation Management Associations or TMAs; some are operating divisions of regional transit agencies; others operate as services provided by MPOs. More recently, many states have organized TDM efforts under regional 511 Mobility Management Programs.

Regardless of the specific housing for a regional TDM program, the chosen organizational model must fit or adapt to the local transportation infrastructure. For example, the role of 511 Rideshare in San Francisco's Bay Area is best suited under the region's MPO, the Metropolitan Transportation Commission. By comparison, in South Florida, the Florida Department of Transportation is the predominant agency providing mobility services, thus the South Florida Commuter Services program is housed under FDOT. These are two examples in which local context strongly influenced the organizational decision, with the resulting organizational model meeting regional operating requirements.

TDM services have been traditionally offered through four principal organizational models:

1. A transportation management association (or organization)
2. An operating division or service of a transit agency
3. A service of an MPO
4. A regional mobility management program traditionally funded by the state

An additional model is emerging: a private-sector-driven model, which is also described. None of these models has proven to be superior over the other; rather each has been used to serve specific local needs.

Options for TDM Program: Project Organizational Scenarios

Figure 20 summarizes these organizational models.

Figure 20: Project Organizational Scenario Table

Model	*Description*	*Pros*	*Cons*
Transportation Management Association / Organization	Typically non-profit, member-controlled organizations that provide transportation services to a particular area. Often partnerships consisting of area businesses with local government support. TMAs provide an institutional framework for TDM Programs and services. They are usually more cost-effective than programs managed by individual businesses. TMAs allow small employers to provide TDM services comparable to those offered by large companies. They avoid budgetary uncertainty that may be associated with government-run TDM programs, since they are controlled by members.	Serve a defined geographic area; may have private-sector funding support; can benefit from private-sector participation and offers an organizational structure that is intended to be business-like.	Low level of private sector participation and funding; lack of quantitative goals and focus on valued services; differing levels of success.
Operating Service of Transit Agency	Can be offered through the Marketing or Planning arm of a transit agency. Most commonly contracted out to third party administrator to avoid governmental barriers.	Can serve as service incubators or substitution tools; can be funded from multiple grant sources; can support existing fixed route services and can incorporate the establishment of Employer Transit Benefit Programs.	Often not provided with the same resources as primary agency services; TDM may not be a primary agency service and does not fit within the corporate culture of transit.
Program offered via Metropolitan Planning Organization	Similar to transit agency operations; however, MPO-run programs are most often staffed in-house or contracted out with third party provider.	Ready access to stable sources of funding; program activities can be readily positioned to serve regional transportation needs; provides MPOs with a flexible, low-cost tool to mitigate congestion and organization at the MPO level; provides higher visibility and greater value to TDM services.	MPOs not normally thought of as service providers; transit agencies may consider services to be competitive; the lack of understanding of the mission of the MPO may limit chances for TDM success.
Regional Program offered through DOT	Operated as a regional mobility management effort via in-house or contract service. Provides a wider array of services than traditional TDM programs such as HOT or HOV lane management, management of highway construction mitigation programs; providing traffic content to traffic service and more.	Steady sources of funding; greater influence over transportation decisions; wider array of TDM services and provides a platform for the multiple mode choice and management in the future.	Downplays the role of transit in regional mobility solutions; focus is on highway/roadway not on employer or location-specific solutions and program association with a state agency may not necessarily assure jurisdictional cooperation.

Options for TDM Program: Project Organizational Scenarios

Transportation Management Association/Transportation Management Organization

There are more than 100 TMAs in the United States, a majority of which are located in California due to the state's early adoption of ordinances to promote shared-ride activities. Most TMAs are private, not-for-profit 501-C-3 organizations with boards of directors that oversee organizational operations. Despite this semblance of private organizational structure, the majority of funding for TMAs still comes from the public sector, most frequently federal CMAQ program grants.

TMAs were originally organized to obtain at least a portion of their funding from the private sector, especially from those private-sector interests that contribute most heavily to traffic congestion in the geographic areas served by these organizations. A recent TRB study references the problem of even luring private-sector participants onto the boards of directors of these organizations. During the past 5 years, many TMAs have disbanded due to a lack of private-sector interest and funding.

TMA services include car and vanpooling promotion, telecommuting, guaranteed ride home and some innovative offerings such as child care and parking management. The failings with TMAs have been in their inability to deliver valued services. The volunteer boards of directors of these organizations have often been reluctant to establish quantitative goals and to hold the TMA to achievement of those measurements.

Operating Division or Service of a Transit Agency

For many years, transit agencies looked upon TDM programs as competitors, especially for choice or discretionary riders. In recent years, that opinion has changed, with many transit agencies embracing TDM services as an extension of a transit agency's fixed-route services. Many transit agencies have deployed van and carpool services to serve as service incubators for fixed or flexible bus services. During the recent downturn in the economy, some transit agencies have replaced fixed-route services with vanpools.

Those transit agencies that have absorbed TDM services into their organizations have housed them under their planning departments or have established commuter assistance services as standalone operations. It would appear that the standalone operations have performed better for transit agencies, providing them with the services to attract commuters who previously traveled by single occupant vehicle.

Transit agencies staff their TDM efforts directly or contract for the service. Those that provide these services directly have staffed them with a project manager or director, a marketing manager, customer service representatives and outreach or sales personnel. These internal programs are also required to acquire the necessary software and hardware to accomplish ridematching services. Under the contracted service model used by many transit agencies, the agency issues a Request for Proposals and contracts with consulting organizations or individuals to provide all of the required services, including acquisition of software and hardware.

Options for TDM Program: Project Organizational Scenarios

Transit agencies that have incorporated TDM services into their operations have benefited from adding new services with minimal additional operating and capital costs. Also, TDM services can serve to extend existing fixed-route services or to replace those services. Transit agencies with rail services utilize car and vanpools as feeder services to bring passengers to stations.

Transit agencies can fund the start-up or introduction of TDM services through federal CMAQ grants if the region is a non-attainment area. A significant portion of the capital costs of establishing a TDM program can be covered by Federal Transit Administration (FTA) grants. Transit agencies can also buy vans and provide them for commuter use at lower rates than those available from van leasing organizations.

One of the disadvantages of operating a TDM program as part of a transit agency is that the TDM services often do not garner the same resources and attention as a transit agency's rail or bus services. Also, the private sector may find it difficult to deal with transit agency bureaucracies when requesting alternative transportation services. Developers and employers who need TDM services often view transit agencies as serving entirely different markets than those who would join car or vanpools.

Finally, TDM programs are, by their nature, first and foremost marketing and sales organizations. Frequently, this emphasis on marketing and sales conflicts with the traditional corporate culture of transit agencies.

A Service of a Metropolitan Planning Organization

Many MPOs offer TDM services. They have taken on this responsibility because of the need for these services or because of the reluctance of transit agencies to include these services in their operations.

MPOs by their charters are traditionally not providers of services but planners. Some large MPOs, such as the Metropolitan Transportation Commission (MTC) in the San Francisco Bay Region, have always provided TDM services. Smaller MPOS, such as Birmingham, Alabama's Regional Planning Commission, have also been long-term sponsors of TDM service programs.

The mission and purpose of the MPO, as discussed in a recent General Accountability Office study, is not well understood by elected officials or policymakers. Additionally, the role of the MPO in channeling federal funding can provide for a more stable source of funding for TDM efforts.

Options for TDM Program: Project Organizational Scenarios

The majority of MPOs provide TDM services contracts for the provision of these programs. Some have chosen to hire staff to handle these tasks, but they have not experienced the same success as those MPOs that established more formal, contracted organizations. When the service is inside an MPO and does not adopt a separate identity from the MPO, TDM efforts seem to have less viability than those such as Birmingham's or the MTC's that have strong brand identities and marketing efforts. MPOs that have internal operations by and large have not achieved the same results as those planning organizations that have committed to developing more aggressive programs through contracted services.

Those MPOs that embrace TDM have found that they have great flexibility to respond to regional transportation needs when TDM is part of the MPO. The MPOs in Houston, Los Angeles, Chicago and Miami regularly call upon TDM services to help with highway construction mitigation and regional congestion problems. Having TDM services housed in an MPO can also lead to the use of ITS initiatives that utilize social and driver assistance technologies to improve traffic flow.

At a minimum, the MPO needs to commit to having an internal staff of at least three individuals to provide a minimum level of TDM service. TDM programs are data-intensive, so the program needs at least one person assigned to the management of the databases and to assist with the ridematching activities. A TDM program is also a sales program, so at least one person must be assigned full-time responsibility for acquiring new program participants.

Every program needs a project manager who should support the customer service, data collection and sales functions in addition to having responsibility for the required reporting that secures ongoing program funding.

A Regional Mobility Management Program Traditionally Funded by the State

In recent years, state Departments of Transportation have begun to develop regional mobility solutions, particularly in urban areas with significant congestion problems. Several states, Florida and Texas most notably, have adopted this organizational model to deal with congestion problems. The South Florida Commuter Services Program is operated under a regional mobility management organization with oversight by Florida DOT. The major difference in the organizational model is that this and other regional mobility management programs provide a wider array of services than traditional TDM programs. These services can include high occupancy vehicle (HOV) lane management, the sale of toll tags for toll ways, management of highway construction mitigation programs, providing traffic content to traffic service, and other highway operations services.

Options for TDM Program: Project Organizational Scenarios

The advantage of this approach is that it offers a wider array of options to commuters to change their mode of travel. Also, these mobility management programs are provided under the auspices of State Departments of Transportation or other regional transportation agencies ensuring the participation and cooperation of local jurisdictions. The programs also benefit from steady funding from multiple sources that are not available to other more traditionally operated and funded TDM programs.

Regional mobility programs have focused on highway traffic mitigation to the detriment of public transit services as these programs often focus solely on roadway solutions (car and vanpooling), rather than promoting rail or bus service. The long-term benefit of regional mobility management programs must be considered in the context of transportation and urban planning. As larger regions consider congestion pricing and the development of more tolling on roads, regional mobility management programs offer the stage from which multiple mode choices can be promoted and managed.

Private-Sector Organizational Model for TDM Services

Locations in Europe (such as Dublin, Ireland; Brussels, Belgium and Barcelona, Spain) provide TDM under a different organizational model than deployed in the United States. This organizational model emphasizes private-sector ownership and provision of services.

In the US, there are some private-sector TDM programs. Companies like Wage Works and Accor Services charge Fortune 500 firms for distributing transit fares and establishing internal employee transportation centers. IBM, through its Smart Cities initiative, is providing TDM services to Stockholm, Amsterdam and Wellesley, Massachusetts. ACS State and Local Solutions and others are managing high occupancy toll (HOT) lanes and coordinating the use of toll roads. The level of sophistication in these privately provided services is much higher than those offered by the publicly operated programs but the services are squarely in what is called the "TDM Toolbox." The focus of these private organizations is on meeting needs that were previously unmet through the use of advanced technology or business processes that are more efficient than those of the publicly funded programs. Policymakers who enter into contracts with IBM, ACS and others cite the brand equity, previous success and focus on results as the reason for commitment to these ventures—qualities that were seldom associated with the previous TDM organizational model.

The private-sector TDM organizational model embraces technology and unmet transportation needs but the crucial difference is in its focus on results. This model is based on mutual commitment of those who need TDM services and those who want to change public behavior to reduce regional congestion. The model must involve the marketplace (the private sector) that needs the products and services and the obligation of the private sector will be to not only promote TDM services but to pay for their use by employees. If the private sector is willing to pay IBM for its TDM-like services, then it must be willing to commit to paying a reasonable ongoing fee for TDM services under the private-sector model.

Options for TDM Program: Project Organizational Scenarios

A typical private-sector-driven model would be, ironically, established as a non-for-profit, 501-c-3 organization, such that it may be able to accept funds from public and private sources. The organization is staffed with TDM, sales and marketing professionals operating on a performance-based, results-oriented model, brokering services provided by public agencies and community-based organizations.

FUNDING OPTIONS FOR TDM

The goal of the information in this section is to highlight the types of funding that could support and sustain the delivery of a TDM project to the study area.

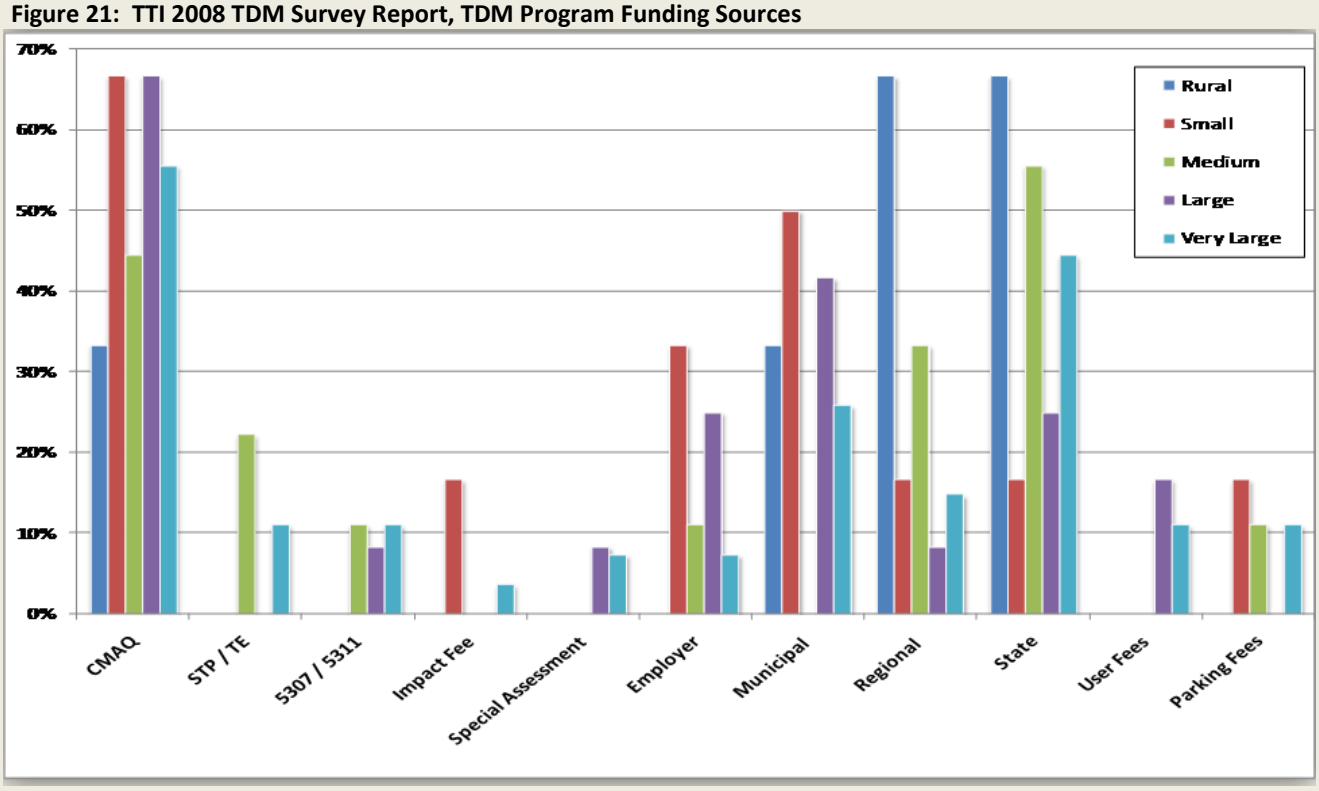
Existing Funding Sources

There are several employers within the study area who are administering internal TDM worksite strategies independent of one another, indicating that the cost of these efforts is assumed by the employer. WVU's programs are funded from parking citations. These combined monies could serve as a source of funding for a regional program element, service, etc.

Other Funding Options Resources

Financial support for TDM programs comes from any number of federal, state and local resources. As shown in Figure 21, a recent study highlights the bulk of program funding derived from federal CMAQ funds. Focusing on small programs (red key), other funding is also derived primarily from municipal and employer entities and, to a lesser degree, regional and state entities as well as parking and impact fees, illustrating options for further exploration.

Figure 21: TTI 2008 TDM Survey Report, TDM Program Funding Sources



Options for TDM Program: Funding Options for TDM

Federal Funds

Federal funds are received directly from the federal government and may only be used for the specific purpose for which they are intended. Federal funds consist of any financial assistance made directly to any state department/bureau/commission/division by the US government, whether a loan, grant, subsidy, augmentation, reimbursement or any other form of such assistance, including federal matching funds. Federal funds have become a substantial part of the operation of state government, either as part of ongoing programs or structured to institute state action. In all cases, federal funds are a significant feature of state services and the budget process.

Congestion Mitigation and Air Quality (CMAQ) is a funding category established in the early 1990s with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA). CMAQ is available to state and local governments in non-attainment and maintenance areas (those in attainment) as a strategy towards helping achieve National Ambient Air Quality Standards (NAAQS). The formula for distribution of funds considers an area's population by county and the severity of its ozone and carbon monoxide problems within the nonattainment or maintenance area, with greater weight given to areas that are both carbon monoxide and ozone non-attainment/maintenance areas.

SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users), the 2005 legislation update, requires states and MPOs to give priority in distributing CMAQ funds to diesel engine retrofits and other cost-effective emission reduction and congestion mitigation activities that provide air quality benefits. SAFETEA-LU also requires the Secretary to evaluate and assess the effectiveness of a representative sample of CMAQ projects to determine the direct and indirect impact of the projects on air quality and congestion levels, and to ensure the effective implementation of the program. The *FHWA Guide To Federal-Aid Programs and Projects*[4], the July 16, 2010 Update to the CMAQ program, stipulates that the "Federal Share: 80 percent, 90 percent if used on the Interstate System, 100 percent if used for certain safety projects (e.g., carpool/vanpool projects, priority control systems for emergency vehicles and transit vehicles, and traffic control signalization) and up to 100 percent on CMAQ funds obligated in fiscal years 2008 and 2009."

[4] http://www.fhwa.dot.gov/federalaid/guide/guide_current.cfm

Options for TDM Program: Funding Options for TDM

West Virginia State Funds[5]

The **General Revenue Fund** consists of taxes, fees, and licenses that are dedicated to the state fund or are not specifically directed to special or other dedicated purposes.

The General Revenue Fund (or General Fund) consists primarily of the major tax revenue of the state such as consumer sales tax and use tax, personal income tax, business and occupation tax, corporate net income tax/business franchise tax, tobacco products tax, and severance tax. These taxes comprise approximately 91% of the General Revenue Fund. The remaining 9% of the General Revenue Fund is a combination of lesser taxes along with fees such as racing fees, liquor profit transfers, and transfers from lottery revenues.

All General Revenue Fund expenditures, except refunds or overpayments, must be specifically appropriated by the Legislature and may be appropriated for any purpose as the Legislature so desires. The appropriations from the General Revenue Fund expire at the end of the state's fiscal year on June 30, except as otherwise provided. Bills may be paid through July 31 for obligations that were incurred on or before June 30 of the expiring fiscal year. The Legislature may re-appropriate any General Revenue Fund account by adding language in the Budget Act that allows any unexpended balances to be carried forward and expended in the following fiscal year. For capital outlay appropriations, W.Va. Code §12-3-12 states that "appropriations for buildings and land or capital outlay shall remain in effect, and shall not be deemed to have expired until the end of three years…."

Certain states such as California allow for the expenditure of state transportation funding on TDM programs. New Jersey and Maryland use their state Transportation Trust Funds to operate TDM programs as well as TMAs.

Special Revenue Funds consist of individual accounts created for a specific purpose; the revenues may be expended only for that specific purpose unless otherwise directed by the Legislature. These accounts generate revenue from permits, licenses, and established rates or fees for services provided either to the public, other state agencies, or non-state governmental entities. These accounts are generally from collections and the spending is limited to the amount collected or the amount appropriated by the Legislature, whichever is less. Proprietary funds and trust funds are included in the budget as Special Revenue Funds.

[5] http://www.budget.wv.gov/executivebudget/Documents/VIBR2011.pdf

Options for TDM Program: Funding Options for TDM

Certain special revenue accounts are specifically appropriated by the Legislature and included in the Budget Act. Other Special Revenue accounts, generally referred to as "non-appropriated," are not specifically appropriated and are not included in the Budget Act. These non-appropriated Special Revenue accounts derive their authority to expend funds from general law and language contained in the Budget Act for that particular fiscal year.

Special Revenue accounts that are specifically appropriated in the Budget Act expire on June 30, and bills may be paid through July 31 in the same manner as General Revenue Funds. Appropriated Special Revenue accounts may also be re-appropriated into the next fiscal year in the same manner as General Revenue accounts. Non-appropriated Special Revenue accounts do not expire but continue forward with the next fiscal year provided the requirements of general law are met.

Local Funds

Local funding for TDM and other related initiatives (environmental, carbon, etc.) can come from a wide array of sources, including special taxes, parking fees, impact fees, and private contributions. Figure 22 highlights commonly implemented funding sources, but is by no means an exhaustive list of funding options.

Options for TDM Program: Funding Options for TDM

Figure 22: Funding Sources Table

Source	Type	Description
Federal	CMAQ	Commonly used by TDM programs, CMAQ is available to state and local governments in non-attainment as well as maintenance areas (those in attainment) as a strategy towards helping achieve National Ambient Air Quality Standards (NAAQS). Cost-effective emission reduction and congestion mitigation activities that provide air quality benefits weigh favorably in use of funds. The CMAQ program requires a 20% local or state match.
State	General Trust Fund	The General Revenue Fund consists of taxes, fees, and licenses that are dedicated to the state fund or are not specifically directed to special or other dedicated purposes.
Local[6]	Special Parking Taxes	Some jurisdictions impose special taxes on commercial parking transactions or on parking facilities.
	Road Pricing	Some communities use road tolls and congestion fees to fund transportation programs, including roadway facilities, transit improvements and TDM programs.
	Fuel Taxes	Fuel Tax Increases and Surcharges. Some jurisdictions dedicate a portion of fuel tax revenues to special transportation programs (such as dedicating 1% of fuel tax revenues to non-motorized facilities), or impose an optional, additional fuel tax for local transportation programs.
	Carbon Taxes	These are special taxes based on fossil fuel carbon content, and therefore a tax on carbon dioxide emissions.
	Dedicated Local or Regional Sales Taxes	This may require a public referendum.
	Transportation Impact Fees	Transportation Impact Fees. These are fees paid by developers based on the transportation costs imposed by their projects. For example, a developer may be required to pay for roadway improvements, public parking facilities (called in lieu fees), to help fund a Transportation Management Association, to pay for walking and cycling improvement, or to fund other programs that mitigate local traffic impacts.
	Special Property Taxes	Some jurisdictions impose special property taxes in areas served by transportation programs and services, sometimes called a *Local Improvement District* or *Land Value Capture.*
	Vehicle Impact Mitigation Fees	This is a fee on each vehicle registered in the region to pay for programs and projects that serve motorists and mitigate the negative impacts caused by vehicle traffic.
	Business or Employee Assessments	Some Transportation Management Associations and Commute Trip Reduction programs are funded by a special assessment on businesses in an area, based on floor area, revenues or number of employees.
	Grants	This includes foundation or government grants to help fund programs.

[6] http://www.vtpi.org/tdm/tdm119.htm

NEXT STEPS

Phase Two: Project Development
The activities of Phase 1 represent the completion of a detailed project report exploring the feasibility and desirability of TDM strategies within the study area. With direction from the MPO TDM Steering Committee, the information presented will serve as a launching pad for this next phase of work.

Moving forward, it is recommended that the Steering Committee, in partnership with the Project Team, perform the following activities:

- Alternatives Analysis: Review, Select and Prioritize:
  a. TDM Strategies
  b. Organizational Program Administration
  c. Funding Sources
- Develop a Strategic Vision for the Program
- Develop a Strategic Plan for the TDM Program inclusive of program performance measurements and evaluation techniques. Elements within the plan should go into greater detail on the organizational, service and funding options most applicable for the area with a cost-benefit analysis of each of the options.

The Steering Committee will need to work with the stakeholder group in prioritizing the program options:

Organizational. Which option would best fit the character of the stakeholder group while gathering the largest degree of stakeholder support? In its analysis, PB will show what the group needs to look for in organizational models.

Strategies/Services. The range of services that should be provided will be defined through our review of previous research and our meetings and discussions with the stakeholder group. The services provided within the TDM program will greatly define the organizational structure of the preferred lead agency. For example, a long list of services may require a larger staff, but the need for staff may be diminished by embracing advanced technologies that can manage many services on-line.

Funding. The budget will greatly influence the level of services that is developed and provided, as well as staff size. PB will present the various options for TDM program models and associated budgets based upon our experience in managing other TDM projects. Many employers in the study area have commitments to sustainability. Working within the context of these programs, PB will help identify funding opportunities. When we are able to show a clear connection, we are able to gain either in-kind or direct corporate funding support for our efforts. For example, we found that hospitals make corporate commitments to reduce their energy costs as part of their sustainability programs.

NEXT STEPS: Phase Two – Project Development

In addition to private-sector opportunities, there are also significant foundation monies that may be obtained to fund an ongoing expansive TDM effort in the Greater Morgantown Region.

Per the scope of work, the project implementation plan should also include a targeted marketing plan specific to the intended target market with appropriate and customized service menus; desired partner agencies, associations and groups; and recommended performance measurements, which will serve as goals for the first program year.

Using its knowledge of the project area's local business and community leaders, the project management team will work with the local Steering Committee to identify additional stakeholders to serve on the Steering Committee. The goal of this task is to broaden support and awareness from within all sectors of the community whose influence will be critical at the onset of final TDM program implementation. Therefore, it will be important to identify those who can bring resources to the table or those with a stake in the future success of the program in its implementation stage.

Working together, using all data collected, PB will work with the Steering Committee to develop a TDM plan that meets the demands of the Morgantown area. The final plan should be flexible enough to respond to emerging community needs. The plan must also be market-driven, i.e., it should be sensitive to the needs of the Morgantown Community. Work-related transportation services might be a focus in some years while in others the program should focus on medical- or school-related services. PB proposes that each annual plan undergo rigorous community review to ensure that the program is being responsive to its requirements.

PB understands that the most successful TDM programs are those that have considerable private-sector involvement. In particular, the organizational model should encourage strong private-sector participation, including in the program's ongoing funding. PB believes that providing specific services to the private sector may lead to a fee for services model under which the private sector contributes to the ongoing funding of the program based upon the value received.

This model is based upon the realities of the current economic climate but also the concern that TDM programs must deliver real value if they are to be funded with public dollars. Therefore, the program must demonstrate quantifiable achievements each year it is in operation in order to justify its ongoing funding and operation.