Transportation Demand Management

Working Paper #2
Alternatives for Implementing TDM during Major Capital Construction

June 2013

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Table of Contents

Page

Purpose and Process .................................................................................................................. 1
Context Overview ...................................................................................................................... 1
The Opportunity .......................................................................................................................... 3
Alternative strategies .................................................................................................................. 4
Woodward Avenue Streetcar ...................................................................................................... 4
I-96 ........................................................................................................................................... 9
I-94 ........................................................................................................................................... 13
I-75 ........................................................................................................................................... 16
Overarching consideration - Branding ....................................................................................... 19
Organizational strategies .......................................................................................................... 20
Implementation Matrix ............................................................................................................. 21
Strategies .................................................................................................................................. 21
Organizational ............................................................................................................................ 22

Table of Figures

Page

Figure 1 Planned major capital construction projects ................................................................. 2
Figure 2 Map of planned major capital projects ....................................................................... 2
Figure 3 Generalized traveler types ........................................................................................ 3
Figure 4 Woodward Avenue M-1 Rail Plan .............................................................................. 5
Figure 5 SMART Woodward Avenue services ......................................................................... 7
Figure 6 Highest ridership DDOT routes ................................................................................ 7
Figure 7 Woodward Avenue vicinity bicycle facilities ............................................................. 8
Figure 8 I-96 reconstruction project location and alternate routes .......................................... 10
Figure 9 MDOT carpool lots .................................................................................................... 12
Figure 10 I-96 vicinity bicycle facilities .................................................................................. 13
PURPOSE AND PROCESS

The Michigan Sense of Place Council, representing numerous state agencies under the direction of Governor Snyder, has partnered with Smart Growth America to provide technical advisory services to six communities of Michigan pursuing livable communities initiatives. The assistance was in two primary areas – community mobility management and strategic transportation demand management (TDM). The focus of the effort for the SEMCOG region will be on TDM, specifically with regard to it as a mitigation strategy during the construction period of major capital projects.

TDM is a suite of strategies to manage the overall volume and peak period demand for private auto travel by encouraging the use of alternative modes, times of travel, and commute or work location options. The major capital improvement projects under evaluation are primarily along highway or interstate facilities or major commuter arterials. The nature of commuter travel patterns on these corridors tends toward longer distance home to work trips. TDM can provide additional traveler options during the construction period and therefore enable additional options for construction phasing and duration.

The project will progress in three stages: 1) review of national leading practices and assessment of existing local resources and opportunities, 2) discussion of alternative approaches and strategies, and finally 3) development of an action strategy for implementation. Working Paper 1 outlined national practices and regional context. This working paper provides a range of potential approaches unique to individual capital projects as well options for overarching TDM services. Working Paper 3 will refine a selected number of these alternative approaches to provide an actionable strategy including timing, specific budget estimates and potential resources, and lead responsibilities.

CONTEXT OVERVIEW

Over the next two to six years, southeast Michigan is slated for several major infrastructure construction projects (Figure 1 and Figure 2). These projects impact high demand corridors used by tens of thousands of workers, residents, students and freight vehicles every day.

Transportation Demand Management strategies offer an opportunity for Michigan Department of Transportation engineers, SEMCOG and jurisdictional partners to complete these construction projects in the shortest amount of time, with the greatest cost efficiency, and the least disruption in regional mobility. Strategically deployed, such strategies may also have the benefit of improving connectivity and access, particularly for disadvantaged populations. Linking TDM efforts across capital construction projects may not only achieve an economy of scale, but also facilitate outreach and understanding of alternative mobility options for the region at large and support and strengthen a foundation for continued broad and effective TDM in the region long after the capital projects are completed.
Figure 1  Planned major capital construction projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Location</th>
<th>Length</th>
<th>AADT</th>
<th>Estimated Cost</th>
<th>Initiation</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-75 from 8 Mile Road to M-59 – capacity expansion project widening north-south interstate corridor from six to eight lanes. Bi-directional peaks.</td>
<td>North</td>
<td>17.7 miles</td>
<td>&gt;100,000</td>
<td>$830 million</td>
<td>2017/2018</td>
<td>TBD</td>
</tr>
<tr>
<td>I-96 (from Telegraph to Newburgh Roads) ² – Interstate maintenance project for eight-lane, trenched highway. The project includes the repair of 37 bridges, including interchanges.</td>
<td>West</td>
<td>7 miles</td>
<td>&gt;100,000</td>
<td>$150 million</td>
<td>2014</td>
<td>1 year</td>
</tr>
<tr>
<td>I-94 (from I-96 to Conner Avenue) – congestion mitigation project to widen interstate facility from six to eight lanes, renovating 65 bridges (10 priority bridges), and converting current service roads to a continuous multimodal local network.</td>
<td>Downtown Detroit</td>
<td>6.7 miles</td>
<td>&gt;100,000</td>
<td>$1.5 billion</td>
<td>2014²</td>
<td>4-5 years</td>
</tr>
<tr>
<td>Woodward Avenue Streetcar – Economic development and revitalization project providing local circulation and connectivity. At completion, nine-lane corridor will be reduced to seven-lanes. Construction will likely require full street closure for limited periods of time, otherwise corridor will be maintained with one lane in each direction plus turn lane.</td>
<td>Downtown Detroit</td>
<td>3.3 miles</td>
<td>~40,000</td>
<td>$165 million</td>
<td>2013</td>
<td>2 years</td>
</tr>
</tbody>
</table>

Figure 2  Map of planned major capital projects

¹ Additional project information at 96fix.com.
² Only if funding is identified and project advances as design-build.
THE OPPORTUNITY

These major capital projects will significantly affect commuter travel and force some change to routine travel. This interruption in the travel norm, while a potential inconvenience, is a tremendous opportunity. Traditionally “Motor City” and the surrounding region has been driven by the automobile – economically and literally. This is changing now with a diversifying economy and a new generation of workers and residents showing an interest in calling the region home. These choice workers – those mobile enough to choose where they work and live and how they travel – are increasingly seeking out regions and neighborhoods that provide a range of travel choices and localized amenities.

Competitive and attractive travel choices – particularly between the core and the region – have to date been fairly limited in the SEMCOG region. There is a strong and growing ride matching and vanpool program, but at the same time, the suburban commuter bus system (SMART) has experienced service reductions. While new alternatives are proposed including streetcar, bus rapid transit, light rail, commuter rail, and HOV lanes; many commuters have yet to even so much as try out non-auto modes to see how they might meet their travel needs.

Strategic and effective TDM measures in concert with these capital projects may not only facilitate project delivery but may also provide proof in concept to many of the “confident, but cautious” or “curious, but skeptical” regional travelers (Figure 3) – who are assumed to represent the majority of SEMCOG regional travelers.

**Figure 3** Generalized traveler types

<table>
<thead>
<tr>
<th>Typology</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convinced and committed</td>
<td>Regular transit, telecommuting, or non-motorized travel users; early adopters either by commitment (personal values or choice decision) or condition (economic limitations to travel choice)</td>
</tr>
<tr>
<td>Confident, but cautious</td>
<td>Travelers who may have used non-private auto travel modes in the past or occasionally, but do not use them routinely; perhaps because they have other choices and/or they feel alternate modes do not conveniently and reliably meet their needs.</td>
</tr>
<tr>
<td>Curious, but skeptical</td>
<td>Travelers who have not tried alternative travel modes, but would consider trying them if they had sufficient information about how to use them and confidence that the option would meet their needs and be reliable. Lack of information, and skepticism about reliability is a major barrier to current use.</td>
</tr>
<tr>
<td>No way, no how!</td>
<td>Travelers who may or may not have tried alternative commutes, but are nonetheless not interested in using them. While they may not use alternative modes, these travelers have a stake in others who are willing getting the information and services to support their use. The more travelers who do use alternative travel options means the fewer drivers still competing for the roadway space reduced during construction.</td>
</tr>
</tbody>
</table>

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3 Adapted from City of Portland, Oregon bicycle planning program
ALTERNATIVE STRATEGIES

The TDM strategies outlined here represent a range of options for the various corridors from the promotion of private sector options such as alternative work schedules or parking pricing to major publicly provided mitigations such as transit passes and/or alternative transit services to shared actions like broader TDM program promotions.

The transportation demand management alternatives presented here do not reflect the full spectrum of TDM tools. For example, many TDM programs are built on a foundation of enhancing walkability (every transit or bike trip is, at some point a walk trip). While a quality walk environment should be (and is) robustly pursued for the economic and literal health of the region, the nature of the trips on these major arterials (typically longer distance commutes) do not lend themselves well to conversion to walk trips. Walk enhancement is therefore are not emphasized as a temporary mitigation strategy for these major arterial projects, but rather understood to be a general pursuit of the region.

Beyond identifying potential strategies, the region and project owners must contemplate organizational structures for implementation, monitoring, and evaluation of the TDM programs. At present, there are several existing or emerging agencies engaged in various elements of TDM but no clear regional leader or provider who takes charge of all TDM activities.

Strategies are organized around the major capital projects and recommending several broad, but viable TDM approaches to mitigate their inconvenience. Although presented separately for organizational purposes, these tools and strategies are not mutually exclusive and actually provide the greatest outcomes when applied in tandem. Many tools are applicable to several projects and are not repeated in whole in each section to avoid repetition. Order of magnitude costs and lead time to implement for the many tools is summarized at the end.

After review and stakeholder discussion, preferred strategies will be identified. The next working paper will explore how to actualize the most promising strategies including funding amounts, potential sources, and responsibilities. It will also explore opportunities to optimize project phasing, and the potential to leverage TDM strategies across the various projects. Further work will define measures of effectiveness for the TDM strategies and a structure for measuring, tracking, and reporting performance during and after the project and who and how this data should be used.

WOODWARD AVENUE STREETCAR

The 3.3 mile long Woodward Avenue Streetcar project will likely be the first major project initiated (Figure 4). Woodward Avenue at present has greater auto capacity than driver demand during most periods of the day. The construction project is fully funded. However given the excess capacity, and presence of alternate routes, TDM interventions are not presently budgeted with this project.

Nonetheless, the Woodward project has a unique and vested interest in reducing any inconvenience of construction and optimizing any opportunity to expand the demand for non-auto travel. The project is, at its heart, an economic development endeavor. Achieving these economic development objectives and outcomes will require continued marketing of the merits and value of more travel choice. Regardless of how mild the pain of construction is estimated to be, expanding interim travel options and the knowledge of how to use them reduces a traveler’s sense of helplessness and
frustration. TDM strategies can help to maintain the transit share that currently exists, while warming and expanding the anticipated future market of riders.

TDM marketing and user information

Communication and marketing is the lynchpin of a successful TDM program, and a critical element of the streetcar project. The public will want and need to know about capital project progress, but this is also an opportunity to expand public knowledge about how and why to use alternative commuting modes. Information and programs must first be identifiable, appealing and compelling. They must be easily understandable and useable.

a. Marketing

Currently the marketing of TDM programs and alternate travel options in the region is relatively limited - shared via avenues such as the SEMCOG web site, Twitter and Facebook. Programs like MichiVan send representatives to a limited number of events, and vRide has a downtown presence in the Compuware’s headquarters, but there is no broad, mass public marketing of TDM options. Implementing a TDM marketing effort in concert with the Woodward Avenue project can serve many purposes and benefits including maintaining momentum for the project, building public confidence in the investment, expanding potential ridership, and attracting additional corridor businesses and residents even while construction is underway.

A targeted marketing campaign that builds upon a clear brand and provides integrated information to developers, major employers, government offices, and other potential customers expands the reach of the message and the penetration to multiple populations.

b. Localized Travel Alternative App

Technology has become an essential tool in trip planning for many travelers. Many apps are currently available for route planning, mode selection, and/or cost (or benefit) calculating. However there can be too many apps of varying qualities of information and user friendliness. Work zones and traffic plans are highly dynamic over the course of a construction project. To be a useful and effective tool, any App developed to facilitate alternative travel patterns must be continuously and reliably updated to reflect the most current conditions and available alternatives.
Apps need to be well distributed, affordable (ideally free!) and easy to use by a variety of travelers from the daily commuter to the planned visitor to the freight carrier.

**c. Events and competitions**

In concert with an effective marketing campaign, events and competitions can not only provide a specific opportunity to try out an alternate commute, but can also add some fun to what may otherwise be a painful construction period. Staged events like a mode “race” (bike vs. bus vs. vanpool) down the corridor can raise attention to all. Challenges among corridor stakeholders to minimize drivers during a specified week or maximize bus utilization can again broaden the audience and provide a communal opportunity to give these options a try.

**Transit services**

Multiple options exist for enhancing transit service as an interim mitigation for the construction impacts associated with the streetcar project. This, of course, also enhances the success of the completed project as well by encouraging more and continuous transit use.

**a. Universal Transit Pass**

Universal transit pass programs, sometimes called UPass or EcoPass programs, are designed so that every member of a targeted user group (for instance residents or workers within a half mile radius of the Woodward Avenue segment) receives a transit pass. Ideally passes are provided free of charge, although some pass programs charge users a nominal fee, both to defray costs and to give users some invested interest in its use.

A universal pass for Woodward Avenue, during the construction period, would serve two purposes: for the significant transit-dependent population on the corridor, it reduces routine travel costs which may enable them to take alternate modes (e.g. taxis) for periodic travel needs if transit services are interrupted; for “choice riders” (those who have the ability to choose which mode of travel they use, such as driving) it provides an incentive to try transit services with little personal cost to them. It is important, however, that the transit service and user experience meet rider expectations. The old adage, “you never get a second chance to make a first impression” is sage counsel if the transit passes provided in conjunction with the construction project are to have a positive and lasting effect, if only for a minority of routine drivers.

**b. Fare Integration**

An alternative (or addition) to a universal pass program would be fare integration across existing services.

At present, both DDOT and SMART provide transit service on or near (Cass Avenue) Woodward Avenue (Figure 5), with the streetcar project introducing a new provider while the Regional Transit Authority is concurrently coming into being. Confusion between routes and fare structures and rules of different carriers are major deterrents to transit ridership. For many travelers, even with construction delays and detours, it is easier for them to understand how to get in their car and drive than figure out multiple transit services.

Currently monthly passes may be purchased that are accepted on both DDOT and SMART, but information on the website makes it difficult to understand if transfers from single ticket trips are likewise honored. There is no integration between DDOT and People Mover.
An integrated fare valid on at least 3 systems – SMART, DDOT, and People Mover – would increase system legibility on the corridor and potentially attract riders. Fare integration would enable continuous service for riders, without necessitating some of the transfers required today, or at least providing a seamless transfer with an integrated fare payment makes this required transfer a little easier to bear.

c. Rerouted and enhanced transit services

The Woodward Avenue bus route (Route #53) is the highest ridership route in the DDOT system. It is closely followed by the Dexter route (#16) which travels on parallel Cass Avenue near the project area (Figure 6). A significant proportion of the population in the project area is transit dependant, having no access to a private automobile. Maintaining, and enhancing, transit for this population – as well as the choice riders – during the construction period is critically important.

The occasion of construction may be an occasion to test limited stop services along these corridors and/or branded services using a simple bus wrap (combined with the afore mentioned branding and marketing campaign).

Route adjustments are likely necessary as a result of construction disruptions and this too may provide an opportunity to pilot different route or service plans to better match desire lines and demands between people and workplaces.

d. Vanpool and ridesharing promotion

Like many urban cores, many residents of Detroit and its inner ring suburbs need transportation to access jobs in the farther-out suburbs such as malls, hotels, of office parks. SMART, with its limited resources, primarily caters to 9-5 commuters heading downtown, leaving a temporal and spatial gap in the transit network for those requiring a reverse commute or those who work night or weekend shifts. The SEMCOG region, with its strong vanpool focus, has hundreds of vehicles in operation each day; with subsidy, these vehicles can be used to bridge transit gaps. Such a program may offer mitigation for any impacts to vulnerable or sensitive populations.
A targeted rideshare program may also be advisable along the corridor and may provide an opportunity to explore the viability or effectiveness of dynamic ridesharing apps currently rising in popularity around the country.

**Bicycle facilities**

Of the four major capital projects identified, the Woodward Avenue streetcar project, and concurrent MDOT street reconstruction project is the shortest and the only project focused on a multimodal urban arterial corridor. At just over 3 miles, the impacted segment is of a reasonable distance to comfortably cover on a bicycle, particularly in spring, summer and fall. For this reason, bicycle mitigations may be a viable option to explore for this construction project.

Detroit’s bicycling infrastructure continues to evolve. In the vicinity of the Woodward corridor is the Midtown Loop – part of a planned and partially constructed greenway system connecting Midtown (the northern terminus of the streetcar segment) to the Detroit River. The 1.8 mile loop encircles Woodward utilizing Cass Avenue and John R. When completed, it will link to an 8 mile continuous trail system linking to the central business district (Figure 7).

**Figure 7** Woodward Avenue vicinity bicycle facilities

![Bicycling map of Woodward Avenue vicinity](image)

Source: Google Maps (accessed June 1, 2013)

a. **Protected facilities**

Installing at least temporary protected cycle tracks along the remainder of John R Street or Cass Avenue would provide the planned connection and enable continuous bicycle travel on a facility safe and inviting for a wide range of ages and abilities. Such facilities can be established at very low
cost with pavement markings and strategic location of on-street parking to buffer the cycling facility. As additional bus accommodation is likely on Cass Avenue, John R. Street provides a very viable and attractive opportunity for this complementary non-motorized accommodation.

b. Park and pedal lots

Park and pedal facilities give whole new meaning to park and ride. These in-town lots are an opportunity to intercept vehicular traffic before it impinges on the construction area and encourage travelers to make the remaining travel distance – a very accomplishable distance in this case – on their personal bicycle. Such lots could be established through lease or voluntary agreement with businesses or property owners and may provide additional benefit to them via increased exposure and potential patronage (in addition to opportunities to seek designation as a Bicycle Friendly Business from the League of American Cyclists).

c. Social rides and events

Targeted at Detroit’s growing youth and young worker population (though preferably open to all!), social media sites provide an opportunity to promote bicycle ride matching to support the formation of bicycle commuter caravans. Such pods of bicyclists oftentimes increase the sense of comfort and safety for more novice cyclists while also being a social occasion and opportunity for community building. Again, apps currently exist for such ride matching, but customization may be desirable to enhance a uniform brand for TDM along the corridor and in the region at large.

d. Secure bike parking (bike station or downtown valet)

Increased bicycle usage demands increased bicycle accommodation for safe and secure parking and storage. This can be accomplished through promotion to conveniently located buildings or facilities along the corridor or in the downtown to provide secure bicycle parking, or the city or partners may pursue a more centralized facility such as a bike valet or bicycle station potentially co-located with Comerica Park. Many stadiums now offer such bicycle valet services and bicycle stations (secure keyed entry or attended bicycle storage facilities) are now available as pre-fabricated and off-the-grid units that may be temporarily installed and easily removed later.

I-96

I-96 in the west of the SEMCOG region is likely to be the next construction project to break ground, currently scheduled for 2014. The 7 mile interstate maintenance project will last at least one year at an estimated cost of $150 million. Full closure of the facility may be contemplated, and preferred by some, to accelerate the construction and minimized the duration of inconvenience (though radically increasing the level of temporary impact).

Populations most likely to be impacted are more suburban commuters and drivers - either those traveling between suburban communities (for instance Plymouth to Dearborn or Southfield) or commuters from the western communities heading into the central city.

Proposed bypass routes are I-94, I-696, I-275, M-39, and US-24 (Figure 8).
Figure 8  I-96 reconstruction project location and alternate routes

Source: BING maps

TDM marketing and user information

As previously stated, marketing and traveler information is a critical element of transportation demand management mitigation strategies. Information should be clear, concise, appropriate to the target audience, and provide the information necessary for desired action. For a suburban population potentially unfamiliar with routine bus use, increased attention to “trip coaching” (actually teaching potential users how to use a system to reduce uncertainty and timidity) can be necessary.

a. Marketing

As previously stated an aggressive and broad reaching, multimedia marketing campaign is likely essential to promoting the available TDM tools and strategies. Marketing should be conducted through both local community outlets as well as regional media forums. Messages should be tailored to the travel market of the I-96 corridor.

b. Localized Travel Alternative App

Again, a locally appropriate travel alternative app can be very useful. Especially in a more infrequent transit corridor, as the I-96 corridor is likely to be, an app providing real time information as to bus arrival and departure times, parking availability, current traffic congestion levels and current detour and route information can be incredibly valuable in increasing traveler willingness to attempt unfamiliar modes, and decreasing overall levels of frustration.
I-96, like other interstate facilities, is a heavily used freight corridor. If a unique app is developed, an element useful and accessible to the trucking industry could be an important component.

c. Events and competitions
Events and competitions are equally valid for interstate facilities as they are with urban arterial projects. In fact, given the strong identity suburban residents have with their local community, events that encourage friendly competition between user communities could again serve to broaden the dissemination of information and encourage more participation in alternative commuting.

Transit services
Transit services on this corridor are more limited. At present there is not SMART bus operations servicing this segment of the corridor. While there is a SMART park and ride route in the area, it operates from the eastern limit of the project area meaning that many travelers will already impact the construction zone enroute to the park and ride lot.

a. Universal Transit Pass
While transit services are admittedly limited on this corridor, a universal transit pass may nonetheless serve a beneficial purpose in encouraging the populace to think about using transit, if not for the commute then for other trips in the region. They may also demand enhanced transit operations to mitigate the impact on this corridor.

b. Relocated and enhanced transit services
In this corridor it may be strongly advisable to introduce additional transit services for traffic mitigation especially if full closure of the facility is pursued. As previously mentioned, SMART does not directly serve this corridor at present in the segment to go under construction. Project partners should explore with SMART the opportunity to provide at least commuter route service during the peak hours.

It may be advisable to relocate the existing SMART park and ride lot or provide an additional park and ride location closer to the junction with I-275 to eliminate the need for commuters to drive within the construction impact area to access the commuter lot and utilize the bus services.

High Occupancy Vehicle Travel

a. Vanpool and ridesharing promotion
Vanpool and carpool matching may be one of the most efficient and impactful approaches for this project given its context and area. To be effective, however, ridesharing promotional staff must be adequately staffed to conduct outreach and provide services. Vans must be available to respond to the potential volume of demand.

Dynamic ridesharing may also be a tool to explore in this corridor as well to enable spontaneous ride-share matching through the use of a smartphone or other mobile device.
b. Park & ride

For this segment of the I-96 corridor, it may be unrealistic to have effective transit service to these widely dispersed regional geographies. Vanpool programs are tremendous at filling the gap that fixed route transit cannot meet; however there are limits to vanpool attraction and participation. Many travelers want the access to their private automobiles for household errands on the way to or from work or home. Many of these trips occur at the homeward end of the home-work commute. With the additional inconvenience potentially introduced by active construction zones in the “work-ward” segment of the trip, many may be persuaded or motivated to transfer to transit or carpool at a logical and convenient transfer point. Park and ride facilities serve this purpose. Currently SMART operates park and ride lots and MDOT operates park and pool lots. Two park and ride facilities bookend the project site and should be optimized and potential need for additional temporary facilities explored (Figure 9).

![Figure 9 MDOT carpool lots](source: Michigan Department of Transportation)


c. Designation of HOV lanes

Michigan has experience implementing HOV lanes as temporary facilities during construction projects. This may be a viable and desirable strategy to pursue for the I-96 project; either on the corridor if it is left partially open during construction or definitely on one or more alternate routes if the highway is closed entirely during the construction period. HOV can help encourage and provide better service to carpool and vanpool patrons. Michigan does not have the legislative authority to ticket people for violating HOV restrictions, however, thus the effect may be limited. Since the region’s congestion is intense but brief, designating a lane as HOV/Transit and general purpose off-peak may be politically difficult but has the power to greatly reduce travel times during these peak hours and support higher ridership travel options.

Bicycle promotion

At seven miles, the project extent is long enough to dissuade all but the most avid cyclists from considering a substitution of a cycle trip for a drive trip from one end of the project area to the other. However bicycling is worth a mention in this instance for the sole reason of the Ann Arbor trail which provides a nice off-road facility through a pleasant greenway setting running roughly parallel to the I-96 corridor (Figure 10). The facility may entice a small number of additional bicycle commuters who were previously unaware of the trail or for whom the time benefits of driving were too great to consider a cycle trip. Given the circuitousness of the recommended alternate routes, the time penalty for cycling is somewhat reduced when compared to auto.

a. Maps, information and promotional campaigns

Increasing the use of the multiuse trail will include extensive outreach and dissemination of information as to how to access the trail, what the route is, any special rules or considerations, and
a host of additional information. Making novice cyclists feel comfortable and welcome on the facility is an important step in breaking down some of the barriers to this use.

Similarly extensive marketing of the benefits of a cycle mode shift are also effective – letting potential riders know the transportation cost savings they may enjoy (and what it is potentially worth), the health benefits, calories expended, fossil fuel energy saved, etc. is also very helpful.

b. Social rides and events

Again, because of the potential length of the corridor, and therefore the substitute ride, potential riders may find more attraction in that commute approach if they have others to cycle with so the commute becomes something of a social gathering and experience. This again can happen either through organized events or through a matching app.

**Figure 10** I-96 vicinity bicycle facilities

![Bicycle Facilities Map](image)

Source: Google Maps (accessed June 1, 2013)

**I-94**

The I-94 project is potentially a $1.5 billion mega project. While under 7 miles long, the complexity of the project – running right along the busy center of the region – could cause it to take four or five years to complete. This is a very long duration of impact in a highly congested area that is the convergence of multiple other interstate facilities. The facility must meet many diverse demands – freight and goods delivery relies on this corridor as do over 100,000 drivers each day. Additionally the services roads running alongside the corridor strive to serve as multimodal connectors liking the major auto mobility corridor with the street grid that provides essential access to land uses and economic activity.

This project is currently unfunded but funding is being aggressively sought. If secured, the project could proceed to construction very rapidly as a design build project. Traffic mitigation and demand management strategies will be absolutely essential during construction.

**Manage parking and congestion**

No matter how much information dissemination or marketing, no matter how great the alternative modes or troubling the construction impacts if parking is cheap and easy people WILL drive.
Parking management is, in most cases, the single most impactful tool for managing travel demand and while a bold proposition, a potentially highly impactful TDM strategy to mitigate impacts of I-94 corridor construction.

a. Parking pricing

Parking downtown is generally $10-$15 per day maximum and $100-$150 per month. In most cases, this does not even cover the cost for parking ramp construction, financing, maintenance and operation. Parking is generally plentiful and privately supplied.

With many vacant parcels downtown, parking has become a land occupancy and land banking strategy, however this degrades the image, attraction, and walkability of the downtown district. Implementing smart parking strategies the price parking according to cost recovery needs will encourage more rational decision-making by travelers rather than artificially lowered driving costs and hidden subsidies.

As a general rule of thumb, off-street parking should be cheaper than on-street parking. On-street resources should be priced to achieve a roughly 85% occupancy – optimizing the resource that exists, adding life to the street, while ensuring sufficient availability to accommodate the demand of newly arriving patrons. Achieving this level of management and occupancy generally requires the investment in smart meters that take credit cards, easing payment by patrons. Off street facilities should be priced as close to cost-recovery rates as the market will bear (generally still far below actual cost recovery!). Lots and ramps closer into the downtown core should be priced higher than those on the periphery to reduce the level of traffic downtown.

Parking management is not typically a temporary endeavor. It takes time to research and “get right” and substantial outreach and education to gain support. The equipment and technology modernizations required to implement in a sophisticated way are generally a permanent investment. This means that parking management as a mitigation strategy for the capital construction projects may be somewhat unrealistic on a broad scale, however further research should be conducted to identify potential meaningful and measurable opportunities for pilot areas, policies, or applications.

b. Satellite parking

Remote parking facilities – facilities outside the ring that I-94 begins to form around the central core – should be established and their use heavily promoted. Cash incentives or other bonuses can be provided to entice travelers to avoid the central core, but many times simply having information about facilities is incentive enough. Again using mobile technologies and pushing information to the traveling consumer in the form of parking space availability, cost, wayfinding, and times of operation can be a strong motivator to use these facilities before they encounter what may be unpredictable delays in the construction zone.

c. Parking cash out

Traditionally the cost to build and maintain parking facilities is averaged among all residents of a building complex, or borne entirely by an employer. Parking cash out unbundles the capital and operating cost of parking as a separate privilege that users must pay for. Just as a person who buys a monthly pass pays for part of what that trip costs the transit agency, the person who drives pays for part of the space it takes to park their car. Quicken Loans offers employees who opt not to drive to its downtown headquarters $150/month. This type of monetary incentive is extremely attractive to the employee as it is cash in hand. As downtown continues developing, more
employers will have the opportunity to convert existing parking into a higher use and new employers will continue the practice by building less parking than traditionally created.

d. Other employer-based incentives

Employers can have some of the most profound influence over employee travel and commuting patterns. In the interest of uninterrupted business operations, employers may be persuaded to provide alternative commute transit incentives to their employees. These may range from employee rewards such as competitions, merit bonuses, or other incentives to employer provided shuttle services or transit passes.

Substantial and focused outreach would be necessary, but building employer “champions” for transit could have a lasting impact on the region far beyond the temporary construction projects. The region could explore additional incentives to employers who provide employee programs for alternate commutes such as additional tax credits, or other valuable benefits.

e. Congestion pricing

While highly controversial in many areas, the fact remains that capacity will be reduced on this vital corridor during the construction project. The corridor is already highly congested and reduced capacity, even with aggressive alternative travel promotion, will increase congestion and reduce productivity for all. Congestion pricing – pricing the remaining capacity of the corridor that remains open – creates a further incentive to consider other options as it adds a direct and tangible cost to the driver’s trip.

Transit services

   a. Downtown shuttle system

For a capital project so close to the core, minimizing daytime trips that use the interstate corridor will be just as important as minimizing peak hour work commute trips. The street grid system of the central core lends itself well to supporting carless trips and a park-once environment. Utilizing the satellite parking facilities previously discussed, then support intra-city trips with a robust shuttle system, pedestrian improvements, and potentially even bikeshare. Partner with businesses with excess parking at the periphery of downtown and establish park and ride, then run high-frequency shuttle service connecting these locations to downtown. Des Moines operates such a system, in which the LINK shuttle transports passengers from a lot north of the city and the D-Line runs continual east-west service every 10 minutes circulating people throughout the city. Service on both shuttles is free.

This would support downtown workers in accomplishing downtown errands without the need or temptation to take their car out again for these relatively short distance trips – potentially further aggravating the construction zones or the limited detour routes around them. This investment may also further catalyze the regeneration of the central city and attract the new generation workforce who are seeking downtown environments with multiple convenient travel options for trips of 20 minutes or less.

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4 http://www.downtowndesmoines.com/downtown-shuttle
b. Integrate private shuttles
Wayne State, DMC, and College for Creative Studies are three major operators of shuttle service crisscrossing downtown. In addition, vRide has 480 vehicles on the road. Securing agreements and funding to operate the resources in the SEMCOG region into a coordinated system could create a high frequency, all-day simple shuttle network on a north-south and east-west axis. If major institutions and the capital projects support public transit with universal transit passes, perhaps resources could be reallocated toward public shuttle service.

c. Universal Transit Pass
As previously mentioned for other projects, a universal transit pass may have a very significant effect on reducing corridor traffic demands. For captive riders, the universal pass can open up new transit options as such a pass is, by definition, “universal” – making travel on DDOT, SMART, AATA or other services or a combination of many equally accessible and infinitely affordable.

While potentially costly given the size of the SEMCOG region, the geographic dispersion of travelers generating the demand and the sheer volume of demand (and therefore eligible pass recipients), such a UPass program amounts to an internal transportation funds transfer from regional highway programs (for construction mitigation) to regional transit programs (for rider subsidies and service enhancements). The timing could be optimal as well, giving a ridership (and funding) boost to the newly formed Regional Transit Authority and their services.

d. Fare Integration
Fare integration again across all transit providers can have a substantial impact on rider confidence in using the system and legibility overall.

e. Introduction and Promotion of New Services
The scale of the investment in the I-94 project is massive as are the potential traffic impacts associated with this highly complex, and very long duration, project. A small fragment of that overall project cost could substantially fund the construction and initial capitalization of the planned regional bus rapid transit system. This system, under the leadership and establishment of the new Regional Transit Authority, could provide broad access to the center of the region swiftly, efficiently and reliably. This then becomes a truly competitive travel choice and, combined with parking pricing and other demand management tools, could profoundly reduce peak period single occupancy vehicle trips into the core.

I-75

The longest of the four major capital projects, the proposed I-75 project extends for over 17 miles and is estimated to cost upwards of $800 million. The project is not yet funded and is likely to be the last of the planned major capital projects undertaking. The project occurs along a very significant north-south corridor and would have broad impact, during the construction period, on a number of communities extending north from the center of the region.

TDM marketing and user information
As with many of the other projects, impact mitigation and the promotion of alternatives to travel impacts on the corridor under construction begins with an aggressive outreach and information campaign including:
a. Marketing

b. Localized Travel Alternative App

Telework, Flexible Schedules, and Activity Node hoteling

Because of the extreme length of this project corridor and its location farther from the urban center and through defined local communities, a concurrent land use and economic development strategy may be useful. The available lead time for this construction project also makes such land use linkages more viable.

Strategies that shift trips from high demand times to lower demand times, intercept trips outside of the center, or avoid the trips altogether can also be both effective ways to mitigate the construction impacts as well as reduce congestion and emissions, potentially attract the new generation of workers and inject additional energy to polycentric nodes extending along the I-75 corridor.

a. Telework

Telework, or cyber commuting, can often avoid a vehicle trip altogether while minimizing work disruptions, and increasing worker productivity and satisfaction. Given some of the exceptionally long commutes along the corridor and in the SEMCOG region, telework could be a very attractive option on a regular or occasional basis for a number of workers.

Telecommuting is often both adored and maligned as a smart growth tool. The merits of telecommuting include dramatic reductions in energy consumption and pollution emissions. The fear of telecommuting is that it enables workers to live virtually anywhere, potentially contributing to continuing sprawling land use patterns without regard to traffic issues or concerns. In a relatively established and built environment like the I-75 corridor, the former provides a powerful benefit, while the latter a relatively unlikely outcome, especially for short term programs such as those associated with the capital projects.

Telework would represent the trip not taken through these construction zones. With relatively little expense, but tremendous human investment in promotion and education, employers could be encouraged to experiment with telecommuting as an option for the typical office worker not engaged in face to face retail activity, physical labor, or other services that require a physical presence. Even permitting employees to telecommute one day per week could reduce traffic impacts in the construction areas by a sizable margin.

Research has found that workers who are able to telecommute, even on a periodic basis, demonstrate higher job satisfaction, lower absenteeism, and higher productivity. While some employers lately have identified concerns with telecommuting minimizing employee collaboration and information exchange and introducing challenges to oversight and accountability, these would, at worst, be temporary conditions while construction was ongoing. At best, piloting telecommuting during the construction period can help employers figure out the model that works best for them, if any, without raising expectations among employees about a permanent program.

b. Work Hoteling

Hoteling, satellite offices, co-working spaces, or “third places” are all similar concepts. While telecommuting generally happens from an employee’s home, these all imply that work is happening in a place that is neither work nor home. This so called “third place” may be a formalized environment such as a satellite office where a small collection of employees from the same firm work in a space closer to their homes or commute trip origins. It may be a flexible office space such
as office “hotels” or executive suites where companies can rent by the hour or day space for employees to work. It may be a co-working space where a diversity of employees or independent small companies share a fully outfitted office environment or it may be any number of informal work spaces such as hotel lobbies, parks, coffee shops, or libraries.

Similar to telecommuting, these alternative work locations may be a new work location appointed during the construction period to which the employee reports on a daily basis, or may be spaces used periodically by one or several employees. These locations provide a more formalized work environment and the interaction with other people that is often beneficial and fulfilling to workers and employers. While they do not completely avoid a work trip, the way that telecommuting does, third-place work spaces can dramatically shorten worker commute distances making alternative travel choices potentially much more viable and attractive – including walk and bike commutes.

The region can take advantage of a temporary interest in work centers located along the corridor between concentrations of worker homes and the construction zones and thoughtfully cluster this activity into existing activity nodes – particularly along the reasonably proximate M-1 corridor which is presently undergoing its own complete streets master planning effort. This can be very complimentary, provide new life and catalysts to these suburban centers and strengthen walkable nodes. When targeted in conjunction with the planned high frequency transit lines they can begin to form the foundation for transit-oriented centers – an intermediary place between the wide region and the downtown core.

The co-working or third-place opportunities also show compelling appeal to the new workforce by again shortening their commute distance and providing them with a synergistic environment where they can interact with a diversity of people from a range of professional fields and personal backgrounds.

While more a land use strategy than a transportation investment, the capital projects can, nonetheless, provide the opportunity for further investigation and motivation for employers, workers, and local jurisdictions.

c. Flexible work schedules
Promoting flexibility in work reporting and departure times enables workers to spread their commute times over a larger period of the day reducing pressure on constrained construction zones. Similar to the above, this strategy is ultimately a determination to be made by individual employers, however regional agencies can play an important role in education and promotion of such a tool and strategy.

Transit services

a. Introduction and Promotion of New Services
Again, the length of the I-75 corridor make it necessary for any transit service to be an especially rapid and reliable service. Fortunately, the corridor is located proximate to planned BRT corridors in the region. This capital highway project can and should consider assistance to those capital transit projects to have those services in place prior to initiation of this construction effort. Having that alternative in place on the parallel M-1 corridor may allow the full or significant closure of the highway facility thereby reducing maintenance of traffic costs and accelerating project delivery while reducing impact.
b. Expand vanpool program

vRide is the chosen vanpool provider by MDOT. The two agencies brokered an agreement for 400 vanpools subsidized by the state with CMAQ funds. Currently vRide operates those 400 vanpools, plus another 80 that are outside of the subsidy (meaning commuters pay out of pocket and the cost is deducted per the federal commute benefit). Interest in more vanpools continues to grow, but vRide is limited by the cap with MDOT. Employer-side subsidy of vanpool can meet regional needs and reduce SOV trips.

Promote higher occupancy vehicle travel

a. Park & ride

There are a number of MDOT carpool lot facilities along the I-75 corridor and, importantly, at the northern extent of it. These facilities should be broadly promoted, their use incentivized, and additional facilities, if necessary, established on a temporary basis.

Many businesses recognize the value in potential customers using their facility for parking. Since transit riders typically need to park closest to the road, in many development patterns this leaves prime parking spots open near the business’ front door anyway. Investment in some lighting at these shared parking lots and signage stating that the lot is in fact a park and ride location are needed.

Some mitigation may be to identify and formalize these “business based” park and ride lots, as well as public lots associated with the new rapid transit services on the Woodward and Gratiot Avenue corridors. Such park and ride locations would let people be their own feeder service and expand the reach and accessibility of the high frequency service.

b. HOV

As previously mentioned, the temporary utilization of HOV designation may minimize traffic impacts and encourage ridesharing for mobility.

OVERARCHING CONSIDERATION - BRANDING

Branding is no trivial effort. It is a specialized discipline and skill. A well branded program will be easily identifiable and memorable. It can be passed from outlet to outlet while consistently conveying the central message. A brand can make a TDM program appear savvy and tantalizing, or bureaucratic and mundane. A well branded program can have a lasting impression that continues to carry on long after the capital projects are completed. While potentially costly, the value can continue to provide returns well into the future.

Today there is not a unified, identifiable or compelling “brand” for alternative commutes in the SEMCOG region. While rideshare and vanpool programs are reasonably mature and information easily available on MiCommute, SEMCOG’s site, and MichiVan, they appear to be separate and unrelated programs. There is no unified name or brand surrounding alternate commuting in the region, or even one phone number or web site to consult. Creating a slogan or mascot for transportation in the region links commute options together in peoples’ minds and provides opportunity for generating energy around TDM.

For reasons of contracting, budgeting and project management, it may be tempting to establish brands and marketing campaigns unique to each project. However this misses the larger opportunity to use each project to further the TDM brand among the public and influence the
culture of travel in the region. Consistent application strengthens the message and identification with each successive project. This also reduces public confusion and builds confidence that if the message is easy to understand, perhaps the program is easy to use as well.

ORGANIZATIONAL STRATEGIES

For the TDM strategies to have a sustained impact in the region, and to make the most of the temporary investments made in TDM to mitigate the impact of the capital construction projects, the region should consider, now, organizational strategies to leverage this new and temporary condition for longevity in the region.

Transportation Management Association

A Transportation Management Association (TMA) is a group that applies “carefully selected approaches to facilitating the movement of people and goods within an area.” Most TMAs are led by the private sector in partnership with public sector agencies, and their primary goal is to address transportation problems through information and coordination.

Of the approximately 150 TMAs across the country, several different organizational structures exist. Some are formal bodies, created by legislation, with assessment powers for included properties. Some are more of a strong leader model, with a single large institution that champions causes for the local community. Others function more as committees and are staffed by a designated transportation management coordinator at either a government agency or a private employer.

Stakeholders in the SEMCOG region have begun discussing formation of a TMA. Compuware is ready to put forth a 20% match for federal funds ($100,000).

Strong Leader model

If a structured organization is not possible, it may still have merit and effectiveness to identify and give platform to a strong leader in the region who can continue to model and champion TDM in the region. In the strong leader model it is often more advantageous to have that leader be a non-governmental entity or staff from either the business community (best!) or institutional partners such as universities or transit providers.

To date, vRide and Compuware are already heavily invested in TDM in the region and make compelling choices for further discussion. Compuware staff already handle commute benefits, wellness center, commuter store, transit passes and work across two entities – the Compuware headquarters and Quicken Loans. vRide is in the vanpool business but also wants to expand TDM throughout region. Further investigation is necessary to determine whether they can serve as a neutral partner to the many stakeholders in the region.

Ad Hoc Committee

The Mobility Partners already form a sort of ad hoc TDM committee and while the group has been impressively successful, doubts remain whether this is a sustainable model for TDM in the region.

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5 NCTR, 2001
## IMPLEMENTATION MATRIX

### STRATEGIES

<table>
<thead>
<tr>
<th>Program</th>
<th>Lead Entity</th>
<th>TDM Impact</th>
<th>Estimated Timeline</th>
<th>Estimated Cost and Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branding</td>
<td>SEMCOG; Transportation Choices</td>
<td>Medium</td>
<td>Medium (6-12 months)</td>
<td>$50,000 to $100,000 for professional consultancy</td>
</tr>
<tr>
<td>Marketing</td>
<td>SEMCOG; TDM coordinator</td>
<td>High</td>
<td>Medium (6-12 months)</td>
<td>$100,000+ for marketing campaign; $35,000-$50,000 for full-time TDM communication coordinator</td>
</tr>
<tr>
<td>Events and competitions</td>
<td>TDM coordination</td>
<td>Low</td>
<td>Medium (6-12 months)</td>
<td>Variable; cost is generally in staff time</td>
</tr>
<tr>
<td>Universal Transit pass</td>
<td>SEMCOG, RTA, MDOT</td>
<td>High</td>
<td>Medium (6-12 months)</td>
<td>Potentially substantial, but highly effective</td>
</tr>
<tr>
<td>Fare integration</td>
<td>Transit Agencies</td>
<td>Medium</td>
<td>Long (12-18 months)</td>
<td>Coordination time; setting up billing</td>
</tr>
<tr>
<td>Rerouting and new services</td>
<td>Transit providers, w/ project owner</td>
<td>High</td>
<td>Medium (6-12 months)</td>
<td>$100,000 - $1 million+ depending on service and facility provided</td>
</tr>
<tr>
<td>Promote new services</td>
<td>MDOT, SEMCOG, RTA, transit operators</td>
<td>High</td>
<td>Short 3-6 months (after deployment of service)</td>
<td>Potentially minor is leveraging existing marketing; modest cost of promotional incentives</td>
</tr>
<tr>
<td>Downtown shuttle system</td>
<td>Downtown business groups; transit providers</td>
<td>High</td>
<td>Long 12-18 months</td>
<td>$250,000+ per year for limited turnkey contracted service</td>
</tr>
<tr>
<td>Integrate private shuttles</td>
<td>Major institutions; transit providers</td>
<td>High</td>
<td>Long 12-18 months</td>
<td>Low cost to region</td>
</tr>
<tr>
<td>Park and ride</td>
<td>TDM coordinator, RTA, MDOT</td>
<td>Medium</td>
<td>Medium 6-12 months</td>
<td>Varies widely (contracted private facility or publicly acquired land)</td>
</tr>
<tr>
<td>Employer-based incentives</td>
<td>TDM coordinator; employers</td>
<td>Medium</td>
<td>Short (3-6 months)</td>
<td>Likely need additional, at least temporary, TDM staff expansion (1 FTE)</td>
</tr>
<tr>
<td>Telecommuting</td>
<td>Private employers, education by TDM coordinator</td>
<td>Low</td>
<td>Short (3 to 6 months)</td>
<td>Relatively minor cost to both region and employers; potential cost of additional TDM staff for outreach and</td>
</tr>
<tr>
<td>Program</td>
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<tr>
<td>------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Hoteling/third place</td>
<td>Private employers; potential land use or economic strategies by local municipalities</td>
<td>Low to moderate</td>
<td>Short (3 to 6 months)</td>
<td>Relatively minor cost – planning and education</td>
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<tr>
<td>Flexible work schedule</td>
<td>Private employers, education by TDM coordinator</td>
<td>Low</td>
<td>Short (3 to 6 months)</td>
<td>Relatively minor cost; potential cost of additional TDM staff for outreach and education</td>
</tr>
<tr>
<td>Parking pricing</td>
<td>?? Jurisdictions</td>
<td>High</td>
<td>Medium to long (6 to 18 months)</td>
<td>Highly variable; can be modest if only policy adjustments or substantial with technology investments</td>
</tr>
<tr>
<td>Parking cash out</td>
<td>Private employers</td>
<td>High</td>
<td>Medium (6 to 12 months)</td>
<td>Can be substantial, but may also result in substantial savings if additional parking facility construction is delayed or deferred</td>
</tr>
</tbody>
</table>

### ORGANIZATIONAL

<table>
<thead>
<tr>
<th>Program</th>
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<th>TDM Impact</th>
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</thead>
<tbody>
<tr>
<td>TMA</td>
<td>SEMCOG and partners</td>
<td>High</td>
<td>Long term (12 to 18 months)</td>
<td>Can vary significantly depending on resources. For the downtown core reasonable estimate is $100,000 to $300,000/ year</td>
</tr>
<tr>
<td>Strong Leader Model</td>
<td>TBD</td>
<td>Medium</td>
<td>Medium (6 to 12 months)</td>
<td>May not require any additional public investment beyond time</td>
</tr>
<tr>
<td>Ad Hoc Committee</td>
<td>Committee</td>
<td>Medium</td>
<td>Short (3 to 6 months)</td>
<td>Minimal financial cost, can be significant time cost</td>
</tr>
</tbody>
</table>