

# TRANSPORTATION DEMAND MANAGEMENT (TDM)

## INTRODUCTION

Previous sections of this Transportation Element describe a number of both current and future challenges to the mobility of Pierce County and others. As noted earlier, our community is experiencing longer travel times on a number of our state highways and county arterials. The 1992 Transportation Plan recommended an extensive list of highway improvement projects to address the current and anticipated deficiencies. Important capacity projects were constructed in the subsequent years.

This Transportation Element notes that there are still appropriate times to build additional capacity into the roadway system. Also, this Element recommends a more complete roadway network that provides both accessibility and higher levels of mobility within the County. There are a number of connectors and corridors that would serve that purpose.

## WHAT IS TRANSPORTATION DEMAND MANAGEMENT (TDM)?

The term Transportation Demand Management (TDM) is no single program or strategy but refers to actions that allow us to use our transportation system more efficiently. High Occupancy Vehicle (HOV) lanes are a long standing example of TDM on our state freeway system. The designation of lanes for carpools and buses allow more people to move in the same amount of space and time. While there are presently no HOV lanes on Pierce County jurisdiction roadways, there is strong evidence of Ridesharing. Ridesharing covers a wide range of transportation evident through our region, including Pierce Transit buses, vanpools, carpools, and taxis. TDM is used in the form of pricing in the High Occupancy Toll (HOT) lanes that are seen north on SR 167.

## WHY IS TDM A GOOD IDEA?

All of the TDM strategies can help achieve the following:

- **Saves Money** – Building additional lanes and new roads has become more expensive. Well designed TDM programs may have a role in decreasing the need for certain types of infrastructure improvements.
- **Increase Mobility Opportunities for All** – As noted earlier in this Plan, it is estimated there will be approximately 185,400 people between the ages of 65 and above living in Pierce County by the 20-year planning horizon. In 2010 there were 87,800 of that same age group living in the county. This demographic will grow from approximately 11% to 19% of the respective total population. If there are improvements in such services as transit, this type of group could benefit.

- Decrease Energy Consumption and Total Cost – Generally, more people in fewer vehicles equate to less energy used and lower overall costs. It is important to note that while there is a cost savings to a collective group of the population, there may be significant individual savings to each commuter who takes a bus and does not incur costs for gasoline, wear and tear on the vehicle and in some cases, increasing parking costs.
- Improve the Environment – Fewer overall vehicles on the roads equates to lower emission levels and less pollution of air and water.
- Make the community more *livable* – TDM becomes more significant in a community, the greater presence of ridesharing and other services such as transit orients a community to a higher level of *activity*.

## PIERCE COUNTY NEEDS A SUCCESSFUL TDM PROGRAM

The collective sum of needed County road improvement projects are not environmentally viable and/or exceed our ability to pay. The [Financing the Transportation Future](#) describes the high costs associated with building additional capacity on the roadway network within the county. It may easily cost up to \$5 M dollars per mile to add one lane on a roadway. As noted earlier in this Element, the roadway improvement costs cannot come at the expense of the cornerstone of a financially responsible and constrained approach of managing our transportation system.

There may also be environmental impacts to adjacent communities that are not proportionate to the benefits of road projects. This Transportation Element recommends that the County designate certain roadways as having *Ultimate Capacity*. In those corridors where such a designation is indicated, there would be a high level of study and possibly strategies that would attempt to understand if alternative actions such as TDM would play a role in giving affected travelers options for travelling specific corridors.

## PIERCE COUNTY HAS EXPERIENCE IN DEVELOPING TDM PROGRAMS

Pierce County is the lead agency for state required Commute Trip Reduction (CTR) efforts in Pierce County. As the lead agency, Pierce County provides the administration oversight, coordinates commuter programs and services, and partners with [WSDOT](#), [PSRC](#), [Pierce Transit](#), [Downtown On the Go](#) and the CTR-affected cities. All of the CTR-affected cities, except for the City of Tacoma, contract with Pierce County for basic administration of their CTR Ordinances.

The passage of the state CTR law in 1991, spurred the most populous counties into the TDM arena. Since then, CTR has been the cornerstone of Pierce County's TDM program.

In the beginning extensive work was completed to develop zones and goals, identify affected employment sites, and develop employer and commute support services. To this day, a TDM/CTR Work Group oversees the CTR efforts in Pierce. The Work Group formally operates under the name [Pierce Trips](#).

Several employer services and programs are in place to help employers with development and implementation of their CTR programs. These services and programs were developed to help employers meet commute trip reduction goals established in the CTR law. Pierce Trips continues to be able to provide these services at no cost to employers through successful federal [Congestion Mitigation and Air Quality](#) (CMAQ) grant awards. These programs include:

- Employer site visits and commute options program development assistance
- Training and networking opportunities
- Marketing materials such as posters and brochures
- Campaigns, promotions and incentives
- Emergency Ride Home
- Ridematching and transit trip planning assistance
- Recognition and Awards
- Commuter Information Centers, HOV parking signs and hangtags
- Trip tracking calendar and database
- Online support services

Trip reduction efforts are expanding in Pierce County. Pierce County recognizes that the commute trip is a percentage of the total trips on our roadways. In order to more efficiently manage our network and contribute positively to the livability of our communities, Pierce County must provide more access to all modes for all trips. Initial expansion efforts include:

- Supporting partner endeavors
  - Downtown On the Go, a transportation advocate for Downtown Tacoma
  - University of Washington-Tacoma Trip Options Program enhancements
- Carshare growth in Pierce County
- Focus on the I-5 TDM Corridor between the Thurston/Pierce border and City of Tacoma
  - Formation of JBLM TDM Working Group consisting of JBLM, Pierce County and Pierce Transit staff
  - Formation of a JBLM Stakeholders Group consisting of partner agencies
  - Development of a JBLM TDM Strategic Implementation Plan
- Collaborating on the Neighborhood based outreach programs
  - City of Tacoma resident outreach program, Stadium In Motion
  - Joint Base Lewis-McChord outreach program, JBLM In Motion
  - City of Puyallup outreach program with a transit/train emphasis, Puyallup In Motion

## THE CONSTRAINTS

### TRANSIT IS NOT EVERYWHERE

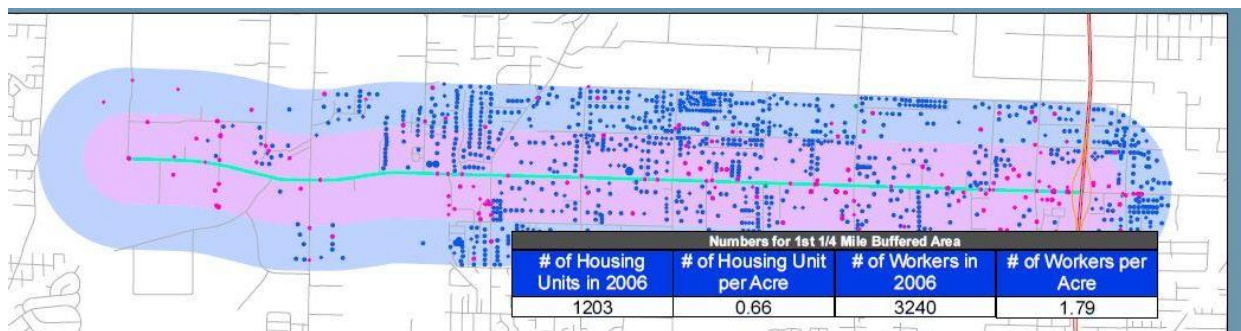
Pierce Transit has cut its routing and frequencies through most of its service area. This makes the concept of leveraging transit as part of a TDM program more challenging.

## LAND USE

Unincorporated Pierce County's historic and current residential development pattern generally conforms to low and moderate density single-family housing. A few major arterials provide for the majority of the commercial and office uses many miles removed from the bulk of the residences in Pierce County. The lack of significant mixed use developments results in a situation where many unincorporated residents drive to their destinations.

Unincorporated Pierce County accounted for over 53% of the overall County housing growth from 2001 to 2010. The low density spread of population makes it challenging to achieve a critical mass of riders along certain corridors.

**Figure 12-P: Development Patterns**



*The Transportation Plan Preview studied five corridors within Pierce County. In all five corridors the residential density was far below the standard threshold levels to sustain transit service.*

## MOVING THE TDM PROGRAM – THE OPPORTUNITIES

TDM by definition encapsulates strategies that attempt to reduce or redirect the demand for travel. Congestion occurs when the demand for the roadway network exceeds the available supply. Traditional strategies have focused on the supply side such as increasing lanes or constructing new roads. These have provided for short term relief but demand will eventually outpace these efforts. By replacing or supplementing this with TDM Pierce County may reduce the need for costly construction projects as TDM decreases roadway demand thereby relieving congestion. Pierce County is currently focusing TDM efforts in certain corridors and subareas, which will hopefully be effective in reducing traffic in specific areas.

A well managed TDM program within Pierce County will expand upon the Commute Trip Reduction (CTR) laws currently in effect. The CTR laws target large employers who establish programs to help their employees find alternate mode choices for their commutes. The program has proven successful already and we continue to extend its reach. By encouraging rideshare or nonmotorized commute options we alleviate congestion throughout peak periods when it matters the most.

In comparison to typical supply side strategies, TDM strategies often cost significantly less. While large TDM infrastructure projects such as rail can incur an expense comparable to the expansion of roadways, TDM often employs inexpensive solutions. This allows planners to

experiment with a mix of TDM strategies to target different audiences without too much financial commitment. Some TDM efforts such as CTR rely on more private investment than on government and public funding.

TDM can also boost a project's ability to receive funding. Some grant funds such as CMAQ largely apply to TDM related activities. Other funding sources award points to projects that incorporate TDM that could make or break an award of funds. Such funding has already allowed us to continue and expand our TDM program. Road projects generally receive much more funding than TDM projects. As a counter, our history has shown that we have a higher probability to gain TDM funding compared with our ability to attain roadway funding. In the future we may see a comparative advantage in TDM funding as opposed to roadway construction funding because of the relatively low costs of TDM and effectiveness in gaining funds.

## JBLM

As noted above the County is now working with JBLM in identifying strategies for removing some of the approximately 100,000 daily trips that cross its boundaries. While funds may be more readily available than before to construct a number of important roadway projects in the JBLM area, it is unlikely that given the magnitude of roadway congestion that a total *fix* will be implemented in the near future.

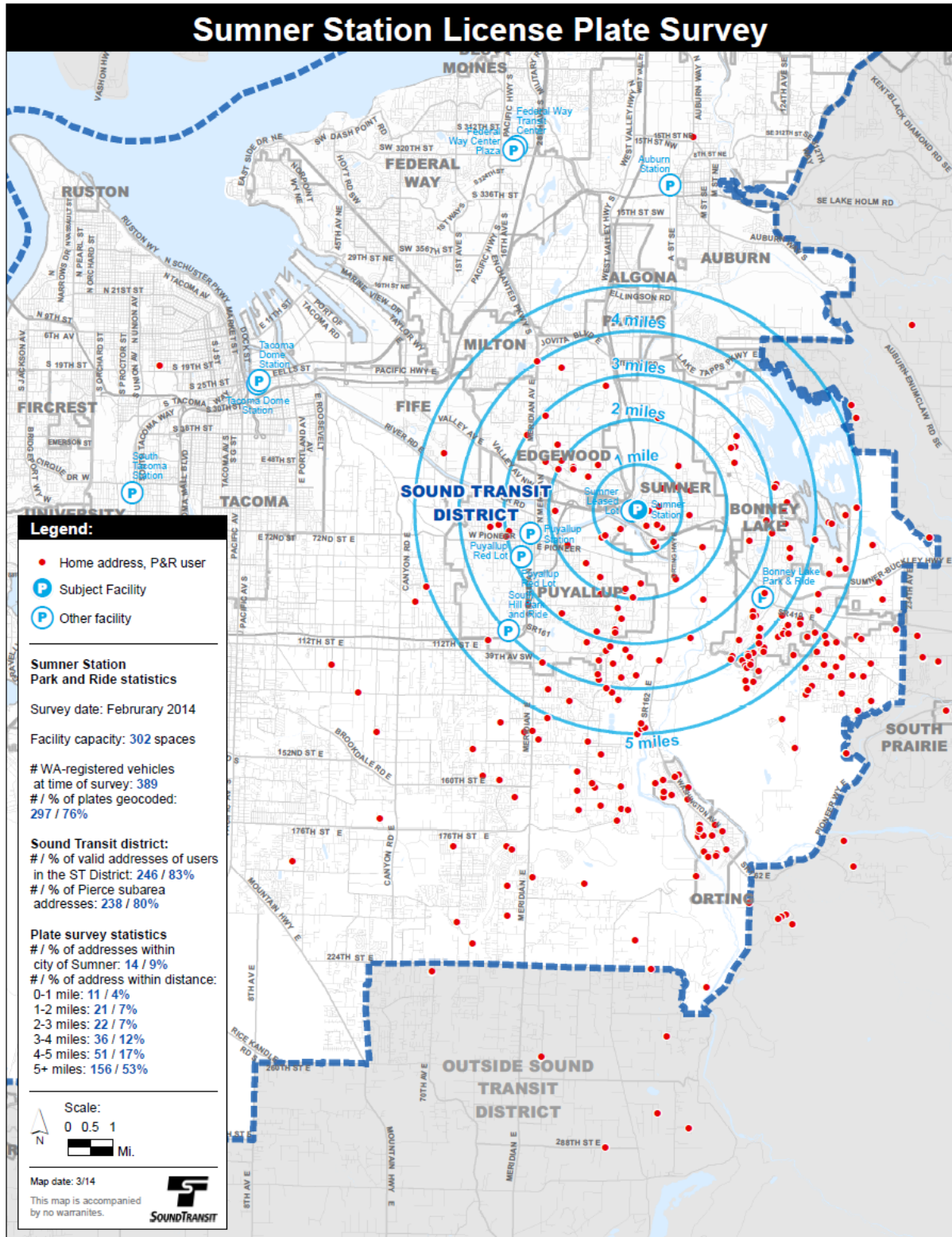
There is a potential for additional work to move forward *on this front*.

## SOUND TRANSIT SUCCESS

Sound Transit (ST) has made an impact on how Pierce County residents travel. The scatter plot in Figure 12-Q shows the residential origins of a sample of Sumner commuter rail station riders. This is a parking lot survey showing that unincorporated residents do use the rail station.

This *scatter plot* of residential location shows that the *travel shed* or the area of influence of the rail station goes well beyond the five mile ring. The attraction of commuter rail to points north is strong. Fuel costs, traffic, and parking costs of travelling to Seattle are strong incentives for Pierce County residents to share a ride. It is recommended that the County work with Sound Transit, Pierce Transit, and the local residential communities to encourage the use of Sound Transit rail and bus express service. Ideally, riders would use transit or rideshare to these heavily utilized station parking lots.

Figure 12-Q: Sumner Station License Plate Survey



Source: Pierce Transit

## OTHER RECOMMENDED ACTIONS

Other actions for the County to pursue include:

- Developing and heavily marketing *catchment* lots in Pierce County that would help galvanize the formation of carpools and vanpools. This would be a residentially based program that may be especially considered in the *Ultimate Capacity* corridors.
- Strengthening existing agency and organizational connections and supporting new alliances in the TDM field. Pierce County has worked with Pierce Transit, Tacoma, and a number of other jurisdictions on TDM. These connections need to be strengthened and augmented.
- Pursuing more grant opportunities. As earlier noted the County has had good success in receiving grants that develop and maintain TDM.
- Reinforcing the land use and transportation connection. As noted above the typical housing density is so low that many areas within unincorporated urban county have difficulty providing base level ridership that would make transit viable in the communities. The question in the long term is how does Pierce County achieve the densities required to attract adequate ridership, hence become financially sustainable.

In short, TDM makes good sense in terms of its benefit to the environment, individual, operations of our roadways and transit systems. TDM makes good business sense.