

Chapter 11. Purpose and Need

The Purpose and Need statement is among the most important chapters in a NEPA document, because it provides the basis for determining the range of alternatives considered in detail and also plays a key role in determining the alternatives that can be approved under Section 404 of the Clean Water Act and Section 4(f) of the USDOT Act.

A strong Purpose and Need statement should (1) clearly describe each of the purposes and needs; and (2) provide specific factual information that supports the existence of those needs.

For practitioners, the challenge lies in translating this advice into practice. The following approaches can help:

- *Use plain language to describe purposes and needs.* The Purpose and Need statement should use words that most readers can easily understand. Jargon (e.g., “roadway deficiencies”) should be replaced with plain language (e.g., “By today’s standards, the bridge is too narrow.”) When jargon is used, it should be explained in the Purpose and Need chapter itself. A sidebar or text-box is an effective way to introduce technical terms.
- *Use bullets or numbering to itemize purposes and needs.* Many transportation projects serve multiple purposes - for example, to reduce congestion and improve safety. Attempting to capture all of the elements of the purpose in a single lengthy sentence may create confusion. If the project serves several distinct purposes, they can usually be expressed most clearly in a series of bullets, each corresponding to a different element of the purpose.
- *Provide specific supporting data for each need.* Each of the project needs should be supported with data or other relevant information. In deciding what data to include, it is useful to consider each element of the need separately, and ask “Do we have the data to support *this* need?” For example, if safety is

identified as a need, the Purpose and Need statement should include data demonstrating the existence of the safety problem.

- *Use graphics to illustrate needs.* Figures, maps, renderings, and other visual elements should be used to illustrate important aspects of the Purpose and Need. For example, if the need is to address road congestion, a map could be included showing the locations where congestion will occur and, ideally, the severity of the congestion in those locations. If the need is to replace a structure at risk of catastrophic failure, a figure could be included showing the problems with the existing structure.
- *Describe agency and public involvement in developing the purpose and need.* Under 23 USC 139, FHWA is required to give participating agencies and the public an “opportunity for involvement” in developing the Purpose and Need for an EIS. It is helpful to describe that outreach in the Purpose and Need chapter, including any major issues raised and how they were addressed. Including this information not only helps to document compliance with a legal requirement, but also gives the public a better sense of the reasoning that led to adoption of the Purpose and Need statement.

For additional information on developing a Purpose and Need statement, refer to the AASHTO Practitioner’s Handbook, “Defining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects” (2006).

Plain Language Used to Describe Purposes and Needs

- OH: Opportunity Corridor DEIS
- WA: SR 520 FEIS

Techniques to note:

- clear, succinct explanation of what a "purpose and need" is and how it is used



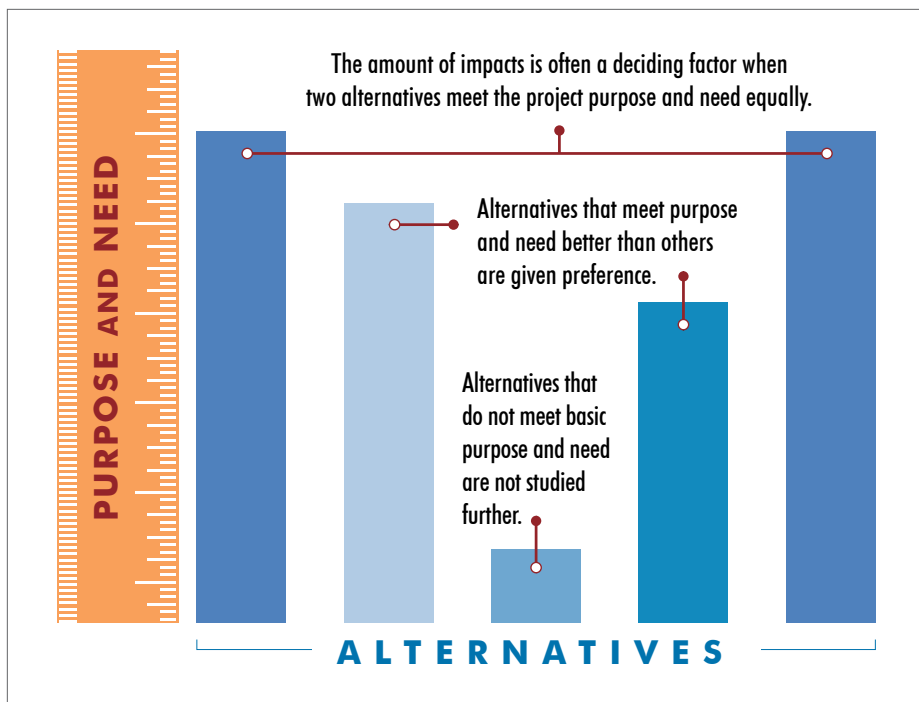
Chapter 2 || PURPOSE and NEED

WHAT ARE PURPOSE AND NEED?

The purpose and need for a project define the transportation problems that the project must solve. The purpose and need also act as “measuring sticks” for the project alternatives, helping determine to what extent each alternative meets each project need (Figure 2-1). Alternatives that do not meet the basic needs of a project are not studied further. Assuming all other concerns are equal, if one alternative meets the project purpose and need better than another, then that alternative is favored as the project progresses. And as alternatives are developed,

the purpose and need can help determine if an impact is necessary.

Figure 2-1: Measuring Alternatives Using Purpose and Need



The purpose and need also help decide where a project will begin and end by defining the “who, what, where, when and why” of the transportation needs. This allows an agency to create alternatives that satisfy the project’s needs completely – no more, no less. The beginning and end points of the project are also called “logical termini.” Logical termini for roadway projects are usually interchanges or intersections where travel demand changes.

The purpose and need are updated throughout the planning and engineering stages as the project team learns more. The purpose and need are not final until they are approved in the Final Environmental Impact Statement (FEIS).

The purpose and need for the Cleveland Opportunity Corridor project are documented in the project’s *Purpose and Need Statement*¹ (May 2011), which can be found on the CD included with this Draft Environmental Impact Statement (DEIS). Since 2011, the purpose and need have been updated with new population data from the 2010 U.S. census. These changes are included in the following sections.

¹ This document is incorporated by reference into this DEIS.



Techniques to note:
- clear, succinct explanation of key concepts in purpose and need (in this case, "system linkage" and "mobility").

Figure 2-2: Street Grid in Study Area



WHAT IS THE PURPOSE OF THE CLEVELAND OPPORTUNITY CORRIDOR PROJECT?

The purpose of the project is to improve the roadway network within a historically underserved, economically depressed area in the City of Cleveland.

WHAT BASIC TRANSPORTATION NEEDS MUST THE PROJECT MEET?

The proposed project must:

1. Improve system linkage.
2. Improve mobility.

3. Support planned economic development.

What is "system linkage?"

System linkage refers to the connections among the roads, neighborhoods and businesses in an area. Today, only a few roads connect the southern and western portions of Cleveland's metro area to University Circle. Chester Avenue (US 322), Euclid Avenue (US 20) and Carnegie Avenue are the only direct connections between these areas. As a result, people traveling north on I-71 and I-77 must merge onto the Innerbelt Freeway (I-90) and travel through the central business district before reaching University Circle.

Recent changes on two of these primary routes have reduced the capacity of the roads between the Interstates and University Circle. Carnegie Avenue once had six lanes that could be switched to provide four or five lanes in the rush hour direction and one or two lanes in the opposite direction, but the avenue was restriped in 2005 to have two fixed lanes in each direction and a center lane for left turns. This eliminated up to three lanes to and from University Circle. Two bus-only lanes were built on Euclid Avenue in 2008, reducing the lanes from four to two.

In addition, the street grid (Figure 2-2, page 2-2) is missing an east-west connection between Woodland and Union avenues, a distance of about two miles. As a result, north-south and diagonal roadways are not directly linked, and drivers must twist and turn their ways through the local streets to reach University Circle, creating a traffic bottleneck at the I-490-East 55th Street and East 55th Street-Woodland Avenue-Kinsman Road intersections. Drivers' other option to reach University Circle is to travel on I-90 or I-490, merge onto Cleveland's Innerbelt Freeway and travel through the central business district.

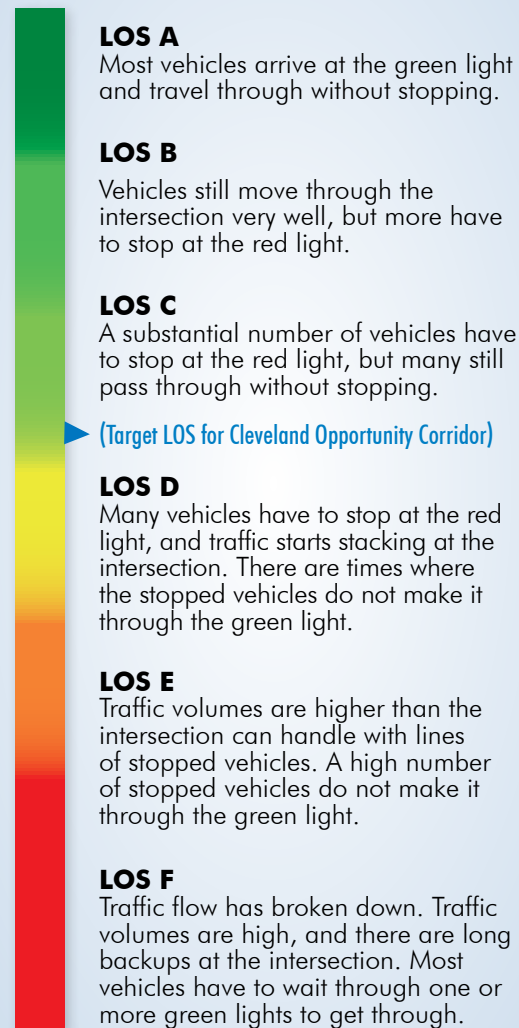
The Cleveland Opportunity Corridor project must provide improved access between I-77 and University Circle.

What is "mobility?"

Mobility is the easy movement of people and goods through an area. It is difficult for trucks to negotiate the roads between I-77 and University Circle. Rail lines used to move most of the goods in this area, so the streets were built mostly for cars. Today, the remaining industries are served mostly by trucks that have to use streets that were not built for them. Also, traffic to and from the houses, apartments, churches and stores in the area does not mix well with the heavy, industrial trucks.

The closest Interstate for travelers in the study area is I-490, and most, if not all, traffic

Figure 2-3: Levels of Service (LOS)



traveling in this area must pass through the I-490-East 55th Street intersection before spreading out to other roads or highways. As a result, 2005 and 2010 traffic counts show that this intersection operates at Level of Service F (Figure 2-3), meaning the traffic flow has broken down. Roadways with this poor level of service have more users than they can handle.

The Cleveland Opportunity Corridor project must provide improved mobility and better levels of service for traffic traveling to, from and within the area between I-77 and University Circle.

- Chapter 11 discusses the comments received during the public comment periods for the 2006 Draft EIS and the 2010 SDEIS, and WSDOT's general approach to reviewing and providing responses to the principal issues raised.

Attachments 1 through 6 are provided in hard copy in this Final EIS, and Attachments 7 through 19 are included on the DVD attached to the cover of the Executive Summary. Updated discipline reports, addenda, and errata are presented in Attachment 7 along with the corresponding discipline reports from the 2010 SDEIS. The project mitigation plans and the Section 106 Programmatic Agreement are included in Attachment 9. The comments received on the SDEIS and WSDOT's responses are found in Attachment 11, and Attachment 13 contains the Comment Summary Report prepared in response to the comments on the 2006 Draft EIS. A complete set of the Draft EIS comments is also included in Attachment 13.

1.2 What is the project purpose?

In 2000, the Trans-Lake Washington Study Committee developed the statement of purpose, which has guided the environmental review process since that time:

The purpose of the project is to improve mobility for people and goods across Lake Washington within the SR 520 corridor from Seattle to Redmond in a manner that is safe, reliable, and cost-effective, while avoiding, minimizing, and/or mitigating impacts on affected neighborhoods and the environment.

The statement of purpose—part of a longer purpose and need statement also adopted in 2000—has helped the project team develop and evaluate alternatives for the EIS analysis by defining the objectives that the alternatives must meet. Although the project limits have changed since the original statement was adopted, the project still has the purpose of improving mobility within the SR 520 corridor, and its transportation performance is evaluated on a corridor-wide basis. However, the I-5 to Medina project also serves another important purpose: to replace the aging and vulnerable Evergreen Point, Portage Bay, and west approach bridges. The following section describes the need for the project in terms of both mobility and safety.

1.3 Why is the project needed now?

The Evergreen Point Bridge is a critical component of the Puget Sound region's transportation infrastructure. It is one of only two connections across Lake Washington that link urban centers in Seattle and the Eastside.

The SR 520, I-5 to Medina: Bridge Replacement and HOV Project addresses two key issues facing the SR 520 corridor: 1) bridge structures that are vulnerable to catastrophic failure; and 2) worsening traffic levels

Techniques to note:

- clear, succinct explanation of why the project is needed, with specific factual support
- explanation of key concept used in purpose and need ("mobility")

What is mobility, and how is it measured?

The fact that the project purpose statement reads, "improve mobility for people and goods"—rather than "for vehicles and goods"—is significant. Recognizing the importance of transit and carpooling in this urban corridor, the Trans-Lake Washington Study Committee adopted evaluation criteria that measured how well potential alternatives would move people in addition to how well they would move vehicles. For this reason, the transportation analysis estimates future person-trips as well as future vehicle trips in the corridor, with an objective of serving as many *people* as possible within a given roadway capacity. While this EIS looks at many measures of transportation performance—travel times, levels of service, areas, and hours of congestion—this emphasis on maximizing the flow of people and goods through the corridor is central to the project purpose. Please see Chapter 2 for more information on evaluation criteria, and Chapter 5 (Section 5.1) for a detailed analysis of the project's effects on mobility.

and congestion due to growth in jobs and housing over the last two decades.

SR 520's bridges are vulnerable to catastrophic failure.

The Evergreen Point Bridge and its approaches are in danger of structural failure. Recent WSDOT studies have demonstrated that the floating span of the Evergreen Point Bridge is highly vulnerable to windstorms, while the Portage Bay Bridge and the east and west approaches to the Evergreen Point Bridge are vulnerable to earthquakes. In 1999, WSDOT estimated the remaining service life of the floating portion of the Evergreen Point Bridge to be 20 to 25 years, based on its structural condition and the likelihood of severe windstorms. Its life expectancy now is only 10 to 15 years.

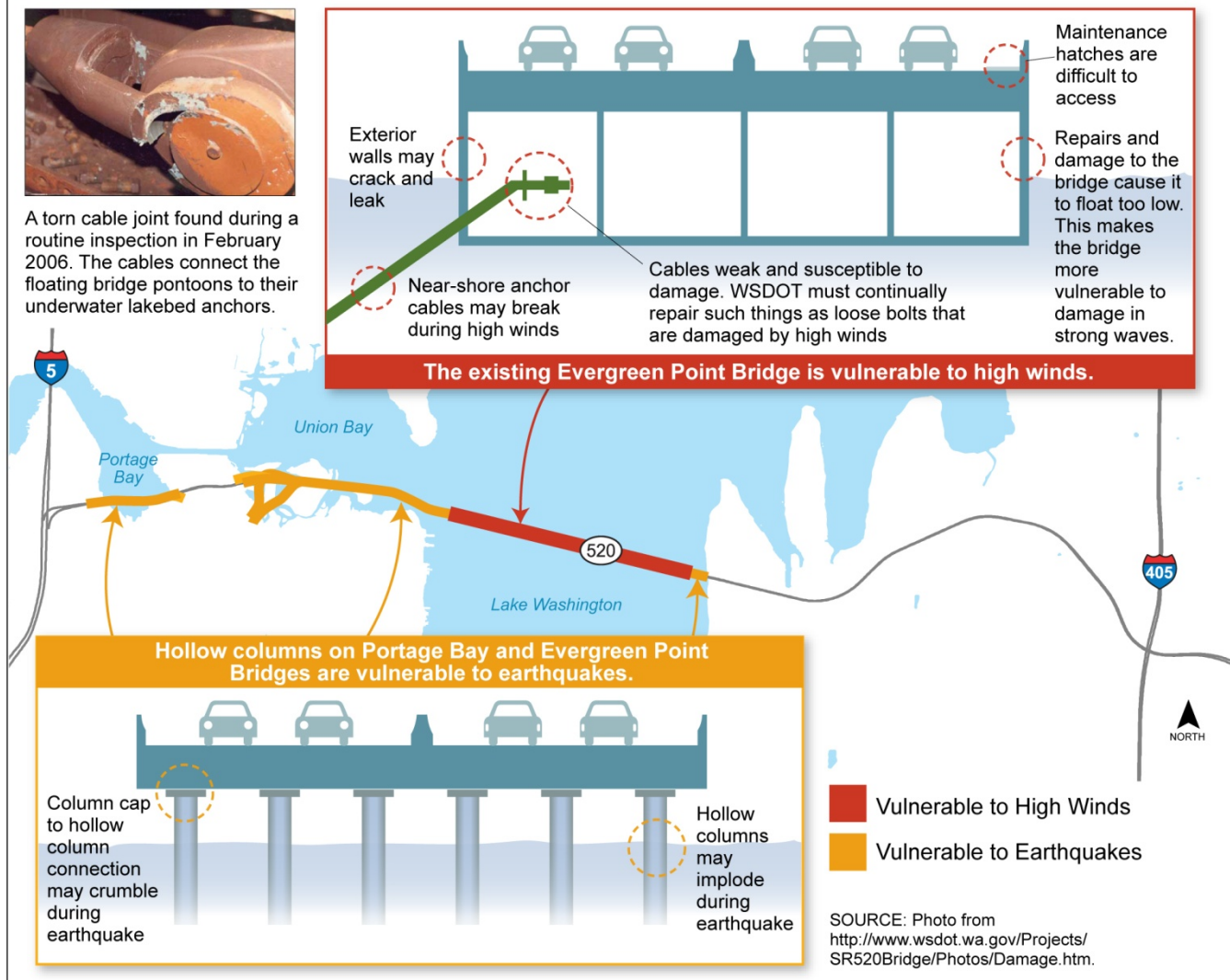
The floating span was originally designed for a sustained wind speed of 57.5 miles per hour (mph). In 1999, WSDOT rehabilitated the bridge to allow it to withstand sustained winds up to 77 mph. This still falls well short of the current design standard of 92 mph. Moreover, some bridge mechanisms have been damaged in recent storms. The floating pontoons currently float about 1 foot lower than originally designed, increasing the likelihood of waves breaking onto the bridge deck. Cracks in the structure leak water that WSDOT must pump out on a regular basis. The probability that the bridge will sustain serious structural damage (i.e., sink or become impassable to traffic) over the next 15 years is extremely high. To bring the Evergreen Point Bridge up to current design standards and eliminate the risk of its catastrophic failure, the existing span must be completely replaced. Exhibit 1-2 shows the vulnerable sections of SR 520.

The ever-present possibility of an earthquake in the Seattle area poses additional risks to other bridges in the SR 520 corridor. The columns of the Portage Bay Bridge and both the west and east approaches to the Evergreen Point Bridge are hollow and do not meet current seismic design standards. Hollow-core columns are difficult and costly to retrofit to today's accepted seismic protection levels; WSDOT studies indicate that such retrofitting would cost nearly as much as building new structures, and would have similar environmental effects. WSDOT estimates that over the next 50 years, there is a 20 percent chance of serious damage to these structures in an earthquake.

SR 520 is congested and unreliable, and does not encourage maximum transit and carpool use.

A second key reason for implementing this project now is the severe traffic congestion in the SR 520 corridor, which was the reason for initiating the original Trans-Lake Washington Study in 1998. The traffic demand in both directions exceeds the highway's capacity, creating several hours of congestion every weekday. The corridor was not built to handle as many

Exhibit 1-2. Points along SR 520 Vulnerable to Earthquake or Windstorms



vehicles as currently want to use it. All of these vehicles result in frequent breakdown of the traffic flow and long backups of vehicles traveling at very slow speeds.

A number of factors have contributed to today's traffic congestion on SR 520. One factor is the pattern of population growth and the changing location of jobs in the project area since the highway opened in 1963. The new crossing of Lake Washington made it much easier for people to live in Eastside communities and work in Seattle, increasing the number of

westbound vehicles across the Evergreen Point Bridge in the morning and eastbound in the evening. Meanwhile, some of these Eastside communities began to develop their own commercial and employment centers, eventually leading to substantial growth of "reverse commute" traffic. Today, seven times more vehicles cross SR 520 each day than when the

Techniques to note:

- use of visual elements to explain key concepts used in purpose and need (in this case, vulnerability to failure in earthquake)

bridge first opened in 1963, and there is no longer a reverse commute: traffic during peak hours is nearly equal in each direction.

Beyond the number of people and cars, another important factor causing today's congestion is the design of the Evergreen Point Bridge. By today's engineering standards, the bridge is too narrow. The narrow shoulders provide no room for vehicles to pull over after an accident or breakdown. Instead, disabled vehicles must stay in the through lane and block other traffic, immediately rendering a full lane of traffic unusable. This slows down traffic and impedes emergency vehicle response. In addition, the westbound HOV lane on the Eastside ends at the bridge. This creates congestion as westbound HOV traffic is forced to merge with general-purpose traffic.

Together, growth and physical limitations will make the future traffic situation on SR 520 worse if the corridor is not improved. Under average evening peak-hour conditions today, a single-occupant vehicle traveling westbound takes approximately 39 minutes to travel SR 520 from SR 202 in Redmond to I-5 in Seattle—a distance of about 13 miles. By 2030, if the project is not built, this same trip will take over an hour (Final Transportation Discipline Report, Attachment 7). This makes it imperative that commuters be provided with travel choices that allow them to avoid driving alone, and that the proposed project be built to support increased use of transit and HOVs.

Traffic congestion is more than an inconvenience for drivers. It also impairs the regional economy and the quality of our lives and communities. Delays increase business costs, discourage growth, and create disincentives for businesses to locate in the region. Congestion also generates pollutants from idling vehicles, which are much less efficient than vehicles operating at higher speeds.

1.4 What would the project accomplish?

The SR 520, I-5 to Medina: Bridge Replacement and HOV Project would improve safety and mobility in the SR 520 corridor by improving SR 520 from I-5 in Seattle to Evergreen Point Road in Medina.

The project would include the following components:

- A new Evergreen Point Bridge, designed to current standards for wind and wave resistance
- New Portage Bay and west and east approach bridges to a floating bridge designed to current seismic standards
- Four general-purpose lanes and two HOV lanes, providing increased mobility and reliability for transit and carpools as well as for general-purpose vehicles

Techniques to note:

- use of plain language rather than jargon ("By today's standards, the bridge is too narrow" rather than referring to "roadway design deficiencies").

Bullets Used to Summarize Purposes and Needs

- CO: US 36 FEIS
- CO: I-70 FEIS
- MD: Baltimore Red Line FEIS
- NC: Mid-Currituck FEIS
- WA: Mukilteo FEIS

1.3 PURPOSE OF AND NEED FOR THE ACTION

The purpose of improvements in the US 36 corridor is to improve mobility along the US 36 corridor from I-25 in Adams County to Foothills Parkway/Table Mesa Drive in Boulder, and among intermediate destinations. The transportation needs of the project are listed below and described further in the following sections.

1. Increase trip capacity.
2. Expand access.
3. Provide congestion relief.
4. Expand mode of travel options.
5. Increase efficiency of transit service.
6. Update outdated highway facilities.

Transportation Need #1: Increase Trip Capacity

Historical growth in population and employment has resulted in increased travel demand within the US 36 corridor. Additional growth is forecasted. One of the ways to respond to this continued growth is to increase trip capacity of the highway.

Substantial residential and employment growth along the US 36 corridor during the late 1990s, which continues today, has greatly increased the demand placed on the highway. According to DRCOG, in 2005, the population in the US 36 project area was estimated to be 505,900 and is expected to grow to 649,100 in 2035 — a 28 percent increase. As a whole, the population in the region is expected to increase from 2.7 million in 2005 to 4.4 million in 2035 — a 63 percent increase, as illustrated in Figure 1.3-1, Anticipated Population Growth. Areas of high growth are predicted in the middle portion of the US 36 corridor, as well as on the eastern end in Adams County. These growth areas will generate additional travel demand for use of routes through and within the corridor (DRCOG 2008).

DRCOG estimated employment in the project area to be 332,500 in 2005 and it is expected to grow to 508,500 in 2035 — a 53 percent increase, as illustrated in Figure 1.3-2, Anticipated Employment Growth. Overall employment in the region is expected to increase by 69 percent, from 1.3 million in 2005 to 2.2 million in 2035. Boulder, with over 78,000 employees, has the region's third-largest employment concentration. In the project area, retail employment is expected to grow by 47 percent between now and 2035 and is projected to be the fastest-growing component of employment growth, indicating an increasing number of regional shopping centers (DRCOG 2008). Areas of high employment growth are predicted in the middle portion of the US 36 corridor, primarily north and south of US 36 and west of US 287 in Broomfield. The Interlocken Business Park in Broomfield on the south side of US 36 will experience substantial employment increases, as will some areas within the City of Boulder. Employment growth is also predicted in Adams County, particularly south of US 36. Population and employment growth will result in increased travel demand and the need for increased trip capacity.

The analysis summarized in Figure 1.3-3, US 36 2035 a.m. Peak-Hour Travel Demand, shows that the capacity available in the US 36 corridor in 2035 will not be adequate to meet projected travel demand unless substantial improvements are made. Figure 1.3-3 compares the projected travel demand in 2035 to existing highway and transit capacity during the a.m. peak-hour. The comparison is made at eight locations along the highway. The demand that can be accommodated by the existing system is shown in dark blue and labeled as "Demand Served."

1.6 What is the purpose and need for transportation improvements in the Corridor?

The purpose for transportation improvements is to increase capacity, improve accessibility and mobility, and decrease congestion for travel demand (projected to occur in 2050) to destinations along the Corridor as well as for interstate travel, while providing for and accommodating environmental sensitivity, community values, transportation safety, and ability to implement the proposed solutions for the Corridor.

There is a need to address the transportation problems in the Corridor. The three interrelated need statements below specifically describe the need:

The relationship of capacity and congestion is not direct. Lack of capacity may lead to congested conditions but increased capacity will not necessarily reduce congestion as the additional capacity can also result in more people traveling. As a result, both increased capacity and decreased congestion are addressed as needs for the Corridor.

- **Increase capacity** – There is insufficient capacity to accommodate the current and projected demand for person trips in the Corridor. Person trips are used to portray the future demand, rather than vehicle trips, so that all potential modes of travel are examined similarly. Lack of capacity leads to slower travel times and congested conditions, as discussed in the two need statements that follow. It also means that person trip travel demand cannot be adequately accommodated. The inability to adequately accommodate person trip demand results in a need to increase person trip capacity.
- **Improve mobility and accessibility** – Mobility along the I-70 Mountain Corridor is defined as the ability to travel along the Corridor safely and efficiently in a reasonable amount of time. The mix of vehicle types, particularly slow-moving vehicles, directly affects mobility in this Corridor. Slow moving vehicles (trucks, buses, and recreational vehicles) make up about 10 percent of weekday traffic.

Accessibility is related to mobility and is defined as the ability to access destinations served by the Corridor safely, conveniently, and in a reasonable amount of time.

Currently, there are long travel times to traverse the Corridor or reach Corridor destinations during peak weekend conditions. Future increases in person trip demand will result in more congestion, more delay, and increased travel times for weekends and weekdays. Long travel times affect all types of Corridor users, and result in a need to improve mobility and accessibility in the Corridor.

lie just within the city limits, north of the project study corridor. Moving toward the downtown area, the project study corridor includes the West Baltimore MARC Station, schools, and shopping centers, all within residential neighborhoods.

The CBD is a major employment center for government, healthcare, and businesses. It includes not only the Inner Harbor, a nationally-known tourist destination, but it is also home to major league baseball, football, indoor soccer teams, universities and professional schools, hospitals, government agencies, and several financial institutions. Recently, the CBD has also become a residential area and offers a number of opportunities to connect with MARC, Metro, Central Light Rail, and the MTA core bus system.

Moving toward the eastern portion of the project study corridor, the Fell's Point and Canton areas are undergoing intense infill development, creating even greater residential density and numerous business opportunities. The easternmost edge of the project study corridor is comprised mostly of industrial and institutional uses, including Johns Hopkins Bayview Medical Center campus.

1.2 Purpose of the Project

The Red Line project is just one step in the ongoing development of an interconnected regional transit system that would improve the quality of transit service in the Baltimore Region. The purpose of the Red Line project is to provide the following improvements in the project study corridor, which extends from the Centers for Medicare & Medicaid Services in Baltimore County to the Johns Hopkins Bayview Medical Center campus in Baltimore City:

- Improve transit efficiency by reducing travel times for transit trips in the corridor
- Increase transit accessibility in the corridor by providing improved transit access to major employment and activity centers
- Provide transportation choices for east-west commuters in the corridor by making transit a more attractive option
- Enhance connections among existing transit routes in the corridor
- Support community revitalization and economic development opportunities in the corridor
- Help the region improve air quality by increasing transit use and promoting environmental stewardship

1.3 Project Need

The needs that exist in the project study corridor are:

- Roadway congestion contributes to slow travel times for automobiles and buses in the corridor
- Lack of convenient transit access to existing and future activity centers in the corridor, including downtown Baltimore, Fell's Point, and Canton, as well as employment areas in Baltimore County to the west of Baltimore
- Lack of viable transit options for east-west commuters in the corridor

- Lack of connections from existing transit routes (including Central Light Rail, Metro, MARC, and bus network) to the I-70 travel market on the west side of the corridor, and to the I-95 and East Baltimore travel markets on the east
- Need for economic development and community revitalization in communities along the corridor, both in Baltimore County and in Baltimore City
- Need to support the regional goal of improving air quality by providing alternatives to automobile usage

These needs are described in detail in **Sections 1.3.1** through **1.3.6** below.

1.3.1 Roadway Congestion and Slow Travel Times

The project study corridor currently faces traffic congestion, affecting both automobiles and buses. The main link in the project study corridor, US 40, is a heavily traveled arterial with high density residential and commercial activities throughout much of its length into downtown. There are many aspects of US 40 that contribute to the congestion and slow travel speeds, but most significant are the numerous and closely spaced traffic signals along the length of the project study corridor.

During peak travel periods, traffic speeds on US 40 range between 10-42 miles per hour (mph) on sections of roadway with posted speeds between 35-40 mph. Currently, traveling by car from the western end of the project study corridor (I-695) to downtown (Pratt Street), a distance of approximately 9 miles, can take as long as 20 minutes during the peak rush hour. This would worsen by Design Year 2035 with a projected increase in traffic of 20 percent over current conditions. By 2035, it may take as long as 28 minutes to travel the same corridor during the peak rush hour, with traffic speeds ranging between 4-32 mph.

Through the CBD and east of downtown, travel in the east-west direction is even slower and more congested. Main east-west streets such as Fayette, Lombard, Eastern, and Fleet Streets are narrow and signalized at nearly every intersection. Traffic speeds downtown range between 4-22 mph during peak travel periods on streets posted at 25 mph. Traffic through downtown and in eastern Baltimore City is projected to increase by 25-35 percent by Design Year 2035. In 2035, during rush hours, the travel time in the west-east direction from Martin Luther King, Jr. Boulevard to Conkling Street via Fleet Street and Boston Street would increase from approximately 7 minutes currently to 12 minutes by 2035. It is also anticipated that the travel time along Lombard Street would increase from 9 minutes to 26 minutes during peak travel periods, thus worsening delays experienced today.

Buses in the project study corridor are subject to the same traffic congestion as automobiles, but have longer travel times because of frequent stops. For most bus routes, speeds during the busiest travel times average only about 9 mph. For example, current bus travel times between Edmondson Village and downtown takes approximately 27 minutes. The US 40 Quick Bus currently makes the trip in approximately 20 minutes. In 2035, the same trip on the US 40 Quick Bus would take approximately 39 minutes.

Techniques to note:

- purposes and needs are listed in bullets, which are further explained later in the chapter.

1.4.1 Project Purpose

The purpose of the Mukilteo Multimodal Project is to provide safe, reliable, and efficient service and connections for general-purpose transportation, transit, high-occupancy vehicles (HOVs), pedestrians, and bicyclists traveling between Island County and the Seattle/Everett metropolitan area and beyond. The project is intended to:

- Reduce conflicts, congestion, and safety concerns for pedestrians, bicyclists, and motorists by improving local traffic and safety at the terminal and the surrounding area
- Provide a terminal and supporting facilities with the infrastructure and operating characteristics needed to improve the safety, security, quality, reliability, and efficiency of multimodal transportation
- Accommodate future demand projected for transit, HOV, pedestrian, bicycle, and general-purpose traffic

1.4.2 Project Need

The existing facility is deficient in a number of aspects, including safety, multimodal connectivity, capacity, and the ability to support the goals of local and regional long-range transportation and comprehensive plans, including future growth in travel demand. Those factors, which are further described below, demonstrate the need for an improved multimodal facility.

Safety and Security

Safety is WSDOT's top priority, and security at transportation facilities is a national concern. Safety and security come into play with this project in several ways: at the pedestrian/vehicle interface, with the general traffic flow in the SR 525/Front Street vicinity, and in maintaining safety and security for the facility itself. Safety and security improvements are needed because:

- The Mukilteo ferry terminal has received few improvements since it was built in 1952. The existing timber structures, including the docking facilities, are beyond the end of their useful lives.
- The existing terminal does not meet current seismic standards. The existing facility is underlain by deep, potentially liquefiable soils that are highly susceptible to lateral spreading during an earthquake.
- Changed U.S. Coast Guard and U.S. Department of Homeland Security protocols now require the ability to secure terminal areas when there is a natural disaster, heightened security alert, or other emergency. The existing facility has city streets within the terminal area and does not allow for a physical separation between the terminal and open public areas, which increases safety and security concerns, and could require WSDOT to interrupt service or close the terminal to respond to an emergency or heightened security alert.
- Collisions near the SR 525/Front Street intersection have included sideswipes, vehicle/pedestrian collisions, and collisions with parked vehicles.

Techniques to note:

- purposes and needs are listed in bullets, which are further explained later in the chapter.
- supporting data is provided for each need

1.0 Purpose of and Need for Action

This statement of purpose and need explains why improvements to the transportation system in the project area should be considered and implemented. Additional details related to project purpose and need are contained in a technical report, *Statement of Purpose and Need* (Parsons Brinckerhoff, 2008). The public and environmental resource and regulatory agencies were given the opportunity in April 2008 to review and comment on a draft of this report (see Appendix A). Their comments are summarized in the *Stakeholder Involvement for Draft Environmental Impact Statement Technical Report* (Parsons Brinckerhoff, 2009). These two reports are on the compact disc (CD) that accompanies this Final Environmental Impact Statement (FEIS), at public review locations listed in Appendix C, and on the NCTA web site at <http://www.ncdot.gov/projects/midcurrituckbridge/>.

1.1 What do you propose to build and where?

The North Carolina Turnpike Authority (NCTA), a division of the North Carolina Department of Transportation (NCDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating proposed transportation improvements in the Currituck Sound area. The project area is shown on Figure 1-1.

1.1.1 We propose to build a bridge across Currituck Sound from the mainland to the Outer Banks. Improvements to existing roads also are considered, both without a bridge and in association with a bridge.

The proposed action is included in NCDOT's 2009 to 2015 *State Transportation Improvement Program* (STIP), the 2012 to 2018 Draft STIP, the North Carolina Intrastate System, the *Strategic Highway Corridors Concept Development Report* (NCDOT, 2005), and the *Thoroughfare Plan for Currituck County* (NCDOT, 1999). In those plans, the proposed action is defined as a bridge across Currituck Sound from the mainland to the Outer Banks. A bridge across Currituck Sound is a part of the Preferred Alternative. When considering the construction of a major transportation investment, it is appropriate to review a range of reasonable alternatives. Thus, the detailed study alternatives evaluated in this FEIS include alternatives that involve improvements to the existing road network. One alternative involves only existing road network improvements. The other four build alternatives involve adding a bridge across Currituck Sound and improving some sections of the existing road network. The No-Build Alternative also is evaluated. These alternatives are described in Chapter 2. Other alternatives that were considered but were not chosen to be assessed in detail are described in Section 2.5, including the reasons why these alternatives were not selected as detailed study alternatives.

1.1.2 The project area is in Currituck and Dare counties, North Carolina, and includes two existing thoroughfares, US 158 and NC 12.

The project area is in northeastern North Carolina and includes the Currituck County peninsula on the mainland and its Outer Banks, as well as a portion of the Dare County Outer Banks (see Figure 1-1). The project area encompasses two thoroughfares, US 158 from NC 168 to NC 12 (including the Wright Memorial Bridge) and NC 12 north of its intersection with US 158 to its terminus in Corolla. US 158 is the primary north-south route on the mainland. NC 12 is the primary north-south route on the Outer Banks. The Wright Memorial Bridge connects the mainland with the Outer Banks south of the proposed Mid-Currituck Bridge.

1.2 What needs is the project trying to meet?

The proposed action responds to three underlying needs in the project area:

- The need to substantially improve traffic flow on the project area's thoroughfares (US 158 and NC 12);
- The need to substantially reduce travel time for persons traveling between the Currituck County mainland and the Currituck County Outer Banks; and
- The need to reduce substantially hurricane evacuation times from the Outer Banks for residents and visitors who use US 158 and NC 168 as an evacuation route.

An improvement is considered substantial as opposed to minor if the improvement is great enough to be largely noticeable to typical users of the transportation system and if the improvement offers some benefit across much of the network, as opposed to offering only a few localized benefits. Alternatives that provide only minor or no improvement, as opposed to substantial improvement, would not meet the above needs.

These needs were identified through an iterative process that included several rounds of agency coordination and public involvement. These needs are based on the following travel conditions and planning activities:

The project area's main thoroughfares (US 158 and NC 12) are becoming increasingly congested, and congestion will become even more severe in the future.

The extent of the existing and expected congestion problems on US 158 and NC 12 in the project area can be summarized as follows:

- In the base year (2006), congestion occurs on almost all of NC 12 in the project area. The worst current congestion occurs in the summer on NC 12 just south of Southern Shores and Duck and on US 158 east of the Wright Memorial Bridge. On both the

summer weekday (2 hours per day) and the summer weekend (7 hours per day) travel demand exceeds the capacity of NC 12 in Southern Shores.

- In the design year (2035), travel demand will exceed the capacity of the road to handle that demand on almost all project area segments of NC 12 and US 158 east of the Wright Memorial Bridge during summer weekday and summer weekend conditions (approximately 29 miles). On the summer weekend, travel demand also will exceed road capacity on all US 158 segments between NC 168 and the eastern end of the Wright Memorial Bridge (an additional approximately 27 miles). When demand exceeds capacity, heavy congestion occurs, and congestion occurs over more hours in the day.
- In 2035, on the summer weekday, on US 158 east of the Wright Memorial Bridge and NC 12 in Southern Shores and parts of Duck, travel demand is expected to be notably greater than the capacity of these roads for 6 to 7 hours per day. Demand is expected to be 81 percent above the capacity of US 158 and as much as 54 percent above the capacity of NC 12. Travel demand is how many vehicles want to travel on a road in an hour. Capacity is the number of vehicles a road can actually carry in an hour. If, for example, a road has the capacity to carry 10,000 vehicles in an hour and demand is 15,400 vehicles in an hour, then demand is 54 percent over capacity.
- In 2035, on the summer weekend, US 158 in Currituck County between NC 168 and the Wright Memorial Bridge will be congested for 10 to 11 hours a day, with demand 16 to 19 percent above the capacity of US 158.
- In 2035, on the summer weekend, US 158 east of the Wright Memorial Bridge and NC 12 in Dare County will be congested for 15 to 18 hours per day, with demand 117 percent of the capacity of US 158 and as much as 162 percent of the capacity of NC 12.

From the perspective of the thoroughfare network in 2035, the above factors will combine to result in an increase in the annual vehicle-miles of travel under congested conditions on US 158 and NC 12 from 5.4 million (2006) to 66.1 million (2035). Miles of road with travel demand at or exceeding road capacity in the summer is expected to increase from a weighted average (summer weekday versus summer weekend) of 3.9 miles to 22.9 miles between 2006 and 2035. For the same period, the weighted average miles where demand exceeds capacity by more than 30 percent in the summer is also expected to rise from zero to 6.3 miles.

Increasing congestion is causing travel time between the Currituck County mainland and the Currituck County Outer Banks to increase, especially during the summer.

As an example of travel time between the Currituck County mainland and the Currituck County Outer Banks, the 40.9-mile trip between Aydlott Road (SR 1140) at US 158 (on the Currituck County mainland) and Albacore Street (SR 1402) at NC 12 (on the

Currituck County Outer Banks) was evaluated. This trip was selected as a representative trip from the Currituck County mainland to the Currituck County Outer Banks. Not all trips have this origin or destination.

The uncongested travel time for this representative trip, allowing for stops at signalized intersections, is approximately 1 hour. Under base year (2006) conditions, this trip takes approximately 1 hour and 8 minutes on a summer weekday, and approximately 1 hour and 42 minutes on a summer weekend. In 2035, travel time for this trip is expected to be just over 2 hours on the summer weekday and more than 3 hours and 53 minutes on the summer weekend. Increases in travel time would result from increasing peak period congestion. These travel times would be even longer when accidents occur or if back-ups occur at signalized intersections.

Hurricane evacuation times for residents and visitors who use US 158 and NC 168 as a hurricane evacuation route far exceed the state-designated standard of 18 hours.

North Carolina's statewide hurricane evacuation clearance time standard is 18 hours (NC General Statutes § 136-102.7, "Hurricane Evacuation Standard"), which is applied to a Category 3 storm with 75 percent tourist occupancy. Clearance times begin when the first evacuating vehicle enters a roadway segment in a given evacuation corridor and ends when the last vehicle leaving the corridor reaches a point of safety.

The state standard was already exceeded at 27 hours in 2007 for evacuees leaving the Outer Banks via NC 168 and US 158. The 2035 clearance time is forecast to be approximately 36 hours with the No-Build Alternative, which is double the 18-hour standard.

1.3 What purpose will the project serve?

Given the needs described above, the purposes of the proposed action are:

- To substantially improve traffic flow on the project area's thoroughfares. Thoroughfares in the project area are NC 12 and US 158;
- To substantially reduce travel time for persons traveling between the Currituck County mainland and the Currituck County Outer Banks; and
- To reduce substantially hurricane clearance time for residents and visitors who use US 158 and NC 168 during a coastal evacuation.

The definition of "substantial" presented for the needs in Section 1.2 also applies to the three purposes.

Needs Supported by Data and Visuals

- CO: I-70 FEIS
- OR: OR 62 FEIS

Techniques to note:

- provides specific factual information to support need for increased capacity

1.11 How are the needs demonstrated by transportation problems in the Corridor?

1.11.1 The need to increase capacity

The inability to adequately accommodate person trip demand results in a need to increase person trip capacity, as summarized in **Section 1.6**. This need addresses the transportation problems described below.

The Corridor serves a wide variety of trips as described in **Section 1.8**. Many of these trips could not occur without the I-70 highway. The ability of the Corridor to accommodate these trips is a major underpinning of all activity—social, work, and recreation—occurring within the Corridor and in areas served by the Corridor. The inability of the Corridor to accommodate demand for person trips now and in the future is an acute transportation problem.

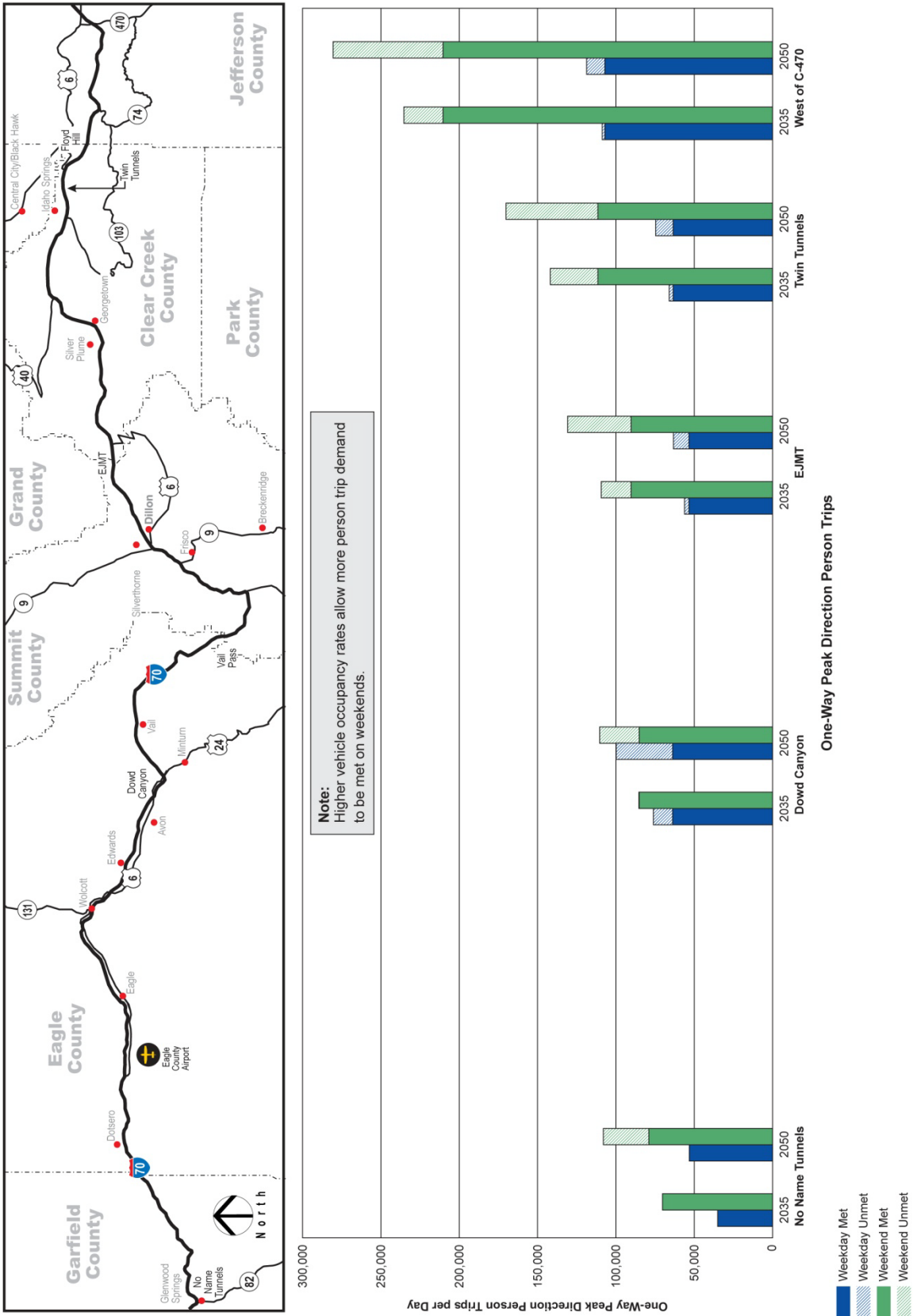
The travel demand model information presented in **Section 1.10** forecasts the amount of unmet demand as a result of severe congestion, long travel times, and other unsatisfactory travel conditions in the future. While it is recognized that there is already some unmet demand along the Corridor, particularly during weekends when congestion is the worst, the model forecasts the additional unmet demand for 2035 and 2050 relative to 2000 trip-making. **Figure 1-8** shows the unmet demand of person trips for representative locations along the Corridor. By 2035, unmet demand occurs during weekdays and weekends for locations east of and including the Eisenhower-Johnson Memorial Tunnels. Weekday unmet demand also occurs at Dowd Canyon representing the Vail Valley area. By 2050, unmet demand increases substantially in all parts of the Corridor. Unmet weekday demand at Dowd Canyon is forecast to be around 35,000 person trips per day in the peak direction. During weekends unmet demand west of C-470 is forecast to be around 70,000 person trips per day in the peak direction. These trips represent activities, such as social, work, and recreation that are desired along the Corridor but not occurring due to poor future travel conditions.

Because of poor travel conditions in the Corridor in 2050, around 9 million people annually who would use the Corridor to reach destinations will instead choose not to travel in the Corridor. These suppressed trips directly affect overall Corridor mobility, accessibility to Corridor destinations, recreational opportunities, and economic activity.

The amount of demand accommodated is different for weekdays and weekends due to automobile occupancy. On weekends, higher average vehicle occupancy ranging from 1.65 to 2.35 allows for more accommodation of person trips than weekdays, where an average rate between 1.45 and 1.65 is expected.

Techniques to note:
- uses corridor map and bar charts to illustrate the locations as well as magnitude of the need for additional capacity

Figure 1-8. 2035 and 2050 Unmet Person Trip Demand



Note: EIJMT = Eisenhower-Johnson Memorial Tunnels

1.2.2 Need of the Proposed Action

This section addresses the underlying transportation problems that were the impetus for the OR 62 corridor project. For purposes of this analysis, the approximate limits of the OR 62 project begin just west of the OR 62/I-5 interchange and extend north to the intersection of Dutton Road and OR 62, in White City (Figure 1-1). The identified transportation needs include, Roadway System Hierarchy/Linkage, Corridor Congestion, Intersection Operations, Safety and Non-Motorized Transportation Modes.

Techniques to note:

- describes role of this route in the highway system
- provides data to support need for improvement on this route
- explains the needs in clear, jargon-free language

1.2.2.1 Deficient Roadway System Hierarchy/Linkage

OR 62 is a vital part of the State's transportation network. According to the 1999 Oregon Highway Plan's (OHP's) State Highway Classification System, the segment of OR 62 from I-5 to OR 140 is designated as part of both the US and Oregon National Highway System (NHS). (ODOT 1999)

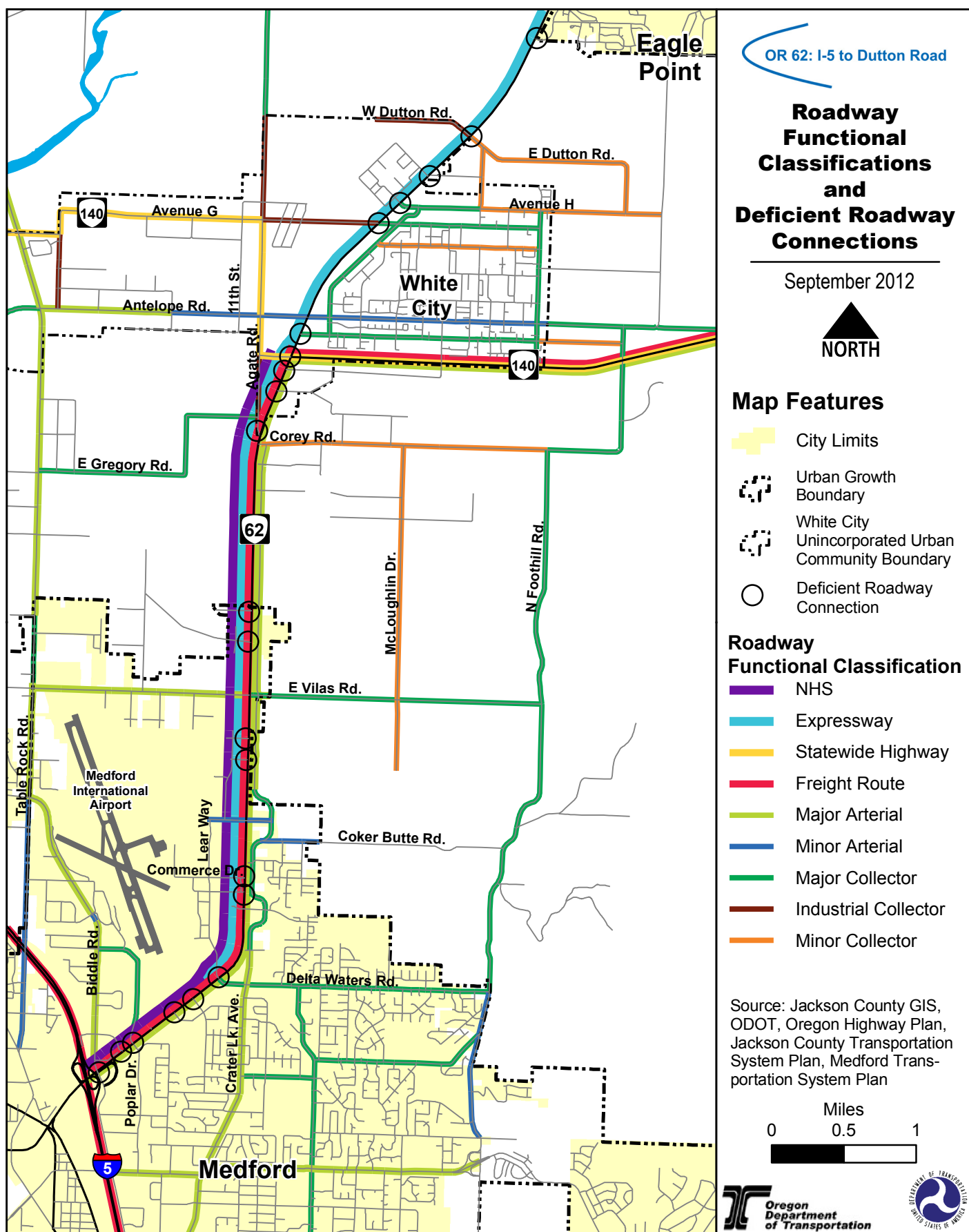
The US NHS is a national network of strategic highways within the United States. These roads connect to other strategic transportation facilities including major airports, ports and rail or truck terminals. The Oregon NHS designation is in recognition of the vital role that OR 62 plays in the economic well-being of the Rogue Valley and the State of Oregon. That same segment of OR 62 is also classified in the OHP as a freight route. In addition, the section of OR 62 from Delta Waters north to Eagle Point is further classified as an expressway in the OHP. The function of an expressway is to provide for safe and efficient high speed (55 mph) and high volume traffic movement with limited intersections and no driveways. Both Jackson County and the City of Medford classify OR 62 as a principal arterial between I-5 and OR 140. Figure 1-2 shows the system hierarchy and network linkage on OR 62. The current posted speed on OR 62 is 45 mph, while the design speed is 55 mph.

According to the OHP, OR 62 is intended by the Oregon Department of Transportation (ODOT) to function as a major interurban expressway and to operate as an interregional facility, connecting Medford to White City, Eagle Point and statewide points north and west. However, data from the origin and destination survey (May 1999) show that approximately 60 percent of traffic on OR 62 consists of local trips. These local trips conflict with the remaining 40 percent of through trips on OR 62. Trying to satisfy these two trip types has resulted in a street network that has too many intersections with OR 62 and lacks a system of hierarchy and linkages for an "orderly flow of traffic." The network does not provide the logical connections between an expressway and local streets and roads. For example, when a regional roadway system is properly designed to address hierarchy, arterials connect to expressways, collectors connect to arterials, and local streets connect to collectors. Currently, there are 36 local street intersections with OR 62 within the project area. Ten of these intersections are signalized and 26 are not signalized, and none are grade-separated. Figure 1-2 shows deficient intersections, labeled "deficient roadway connections." This deficient system of hierarchy does not allow for smooth and efficient flow of traffic, while the deficient intersections contribute to the safety concerns and congestion. A proper solution that would address this issue would be a road system that would generally separate the distinct types of trips onto separate facilities and that would provide a logical hierarchy of connections to serve the trip types. For example, the through trips would use a highway that functions as an expressway and the highway would have a relatively small number of arterial connections to the roadway system used for the local trips.

1.2.2.2 Corridor Congestion

Prior to December 2011, the OHP used Mobility Performance Standards as one of the primary measures of corridor congestion. These standards were numerical measures that needed to be met to show compliance with the OHP. In December 2011, the Oregon Transportation Commission (OTC) adopted Mobility Performance

Figure 1-2



Targets as the replacement measure for the previously used standards in the OHP. While the previous mobility standards were viewed as rigid numerical measures, the newly adopted performance targets, while still numerical, are seen as aspirational in nature and offer a degree of flexibility to jurisdictions as they show compliance with the OHP.

Under 2007 baseline conditions, OR 62 just west of I-5 carried over 52,000 average daily trips (ADT). Of these trips, 5 to 6 percent of the vehicle mix consisted of trucks. Since 2007, traffic volumes on OR 62 have declined in tandem with the economic slowdown. According to traffic trends published by ODOT's Transportation Planning and Analysis Unit (TPAU), traffic volumes are anticipated to slowly increase. Currently four of the nine project area intersections exceed their applicable v/c performance targets; by 2035 eight intersections will exceed their applicable v/c targets (see Table 1-1). Congestion begins during the morning commute period (7 AM - 9 AM) and gradually increases throughout the day with little, if any, relief through the afternoon commute period (4 PM - 6 PM). High traffic volumes continue to occur in between peak periods. The continuous high traffic volumes in midday do not allow conditions to fully recover prior to the afternoon commute period.

The small reduction in the forecast 2035 v/c ratio at the intersection of OR 62 and Vilas Road in Table 1-1 is the result of a change in the phasing of the traffic signal, which is described in Section 3.1.3.2. The small reduction in the forecast 2035 v/c ratio at the intersection of OR 62 and OR 140 is the result of the addition to the roadway system under the No Build Alternative of a project to add left-turn lanes from OR 140 westbound to OR 62 southbound, as described in Section 2.1.1.

As illustrated by data for the intersection of OR 62 and Delta Waters Road (Figure 1-3), traffic volumes rise during the AM peak period and then continue to rise throughout the midday, peaking during the late afternoon. This steady presence of traffic volumes on OR 62 results in congested conditions at most intersections from the start of the morning commute to the close of the evening commute. As a result of congested conditions on OR 62, it takes approximately 16 to 18 minutes to travel through the OR 62 project area during the PM peak period, with average speeds of 25 to 29 miles per hour.

By the future year 2035 under No Build conditions, all but one of the nine signalized intersections along OR 62 between I-5 and Avenue H would fail to meet performance targets as daily traffic volumes approach 63,000 vehicles (see Table 1-1). OR 62 would experience increased congestion as volumes from turn lanes would block adjacent through lanes, and signalized intersections would operate at capacity. Mainline queue lengths would block adjacent local streets, which would cause local street queue lengths to increase and system-wide congestion would also increase. If no roadway improvements are made,

Table 1-1 Signalized Intersection Operations for OR 62 v/c Ratio, Two-Hour PM Peak Period

Key Signalized Intersections	ODOT Mobility Target	2007 Existing Conditions	Future Year 2035 No Build
I-5 SB & OR 62	0.85	0.73	0.87
I-5 NB & OR 62	0.85	0.67	0.75
Poplar Drive & OR 62	0.85	1.02	1.05
Delta Waters & OR 62	0.85	0.86	1.00
Owens Drive & OR 62	0.85	N/A	0.92
Vilas Road & OR 62	0.85	0.86	1.38 1.36
Highway 140 & OR 62	0.85	0.86	1.54 1.48
Antelope Road & OR 62	0.85	0.83	1.09
Avenue G & OR 62	0.85	0.68	0.89

Source: OR 62 Traffic Analysis, OR 62 Corridor Solutions Project. August 2011

v/c = Volume to Capacity describes the capability of an intersection to meet volume demand based upon the absolute maximum number of vehicles that could be served in an hour.

Black-shaded values indicate v/c ratios that exceed or will exceed ODOT mobility target.

N/A = The intersection of Owens Drive at OR 62 is not signalized in the existing 2007 Existing Conditions, therefore, there is no v/c ratio.

Installation of the Owens Drive and OR 62 signal occurred in year 2010, as a part of the City of Medford and ODOT's Coker Butte and Owens Drive project, which realigned Crater Lake Avenue and extended Owens Drive to OR 62.

travel times would approximately be double that of 2007 existing conditions. For example, PM peak period travel times on OR 62 from one end of the project area to the other would increase to 29 to 32 minutes with average speeds of 15 to 17 miles per hour.

1.2.2.3 Deficient Intersection Operations

The following are identified as key signalized intersections within the Project limits of OR 62:

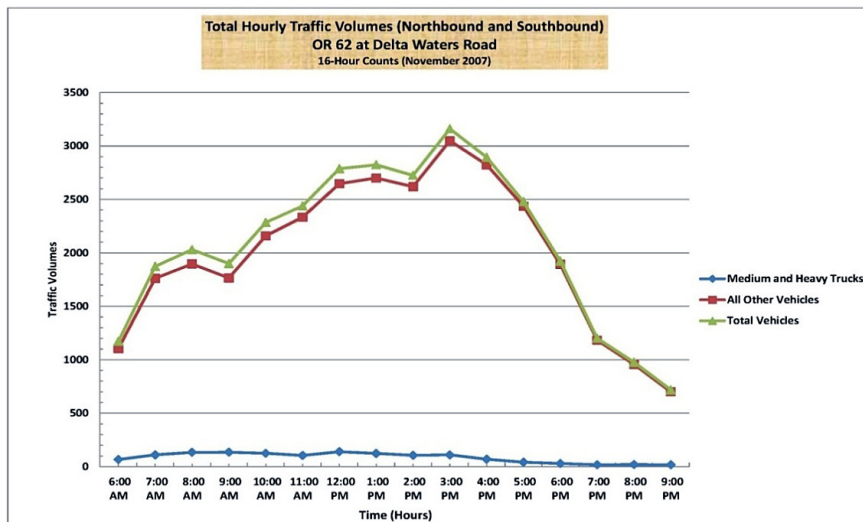
- I-5 southbound (SB) & OR 62;
- I-5 northbound (NB) & OR 62;
- Poplar Drive & OR 62;
- Delta Waters & OR 62;
- Owens Drive & OR 62;
- Vilas Road & OR 62;
- Highway 140 & OR 62;
- Antelope Road & OR 62; and
- Avenue G & OR 62.

To determine the performance of an intersection, ODOT uses volume to capacity (v/c) ratio mobility targets.

Four of the key signalized intersections listed above failed to meet performance targets in 2007, as shown in Table 1-1. In addition, intersecting streets are spaced closer than the ODOT standard for almost all segments along OR 62 between Poplar Drive and Dutton Road and there are numerous driveways that connect directly to OR 62 due to a lack of access management. These conditions contribute to problems with intersection operations: vehicles turning from local streets or driveways onto OR 62 – particularly those turning left – face long delays because of the high traffic volumes and few traffic stream gaps of adequate size on OR 62. Those long delays cause queues to form on the local streets. Drivers experiencing those traffic conditions are more likely to take risks and make a turn when a smaller-than-ideal gap appears. This behavior increases the potential for crashes and also causes drivers on OR 62 to brake or make other evasive maneuvers to avoid a crash, which in turn affects traffic flow on OR 62.

By the future year 2035, eight of the nine key signalized intersections would fail to meet performance targets if no roadway improvements are made (see Table 1-1). Nearly all unsignalized intersections along OR 62, which allow left turn movements from local streets onto OR 62, would exceed performance targets in 2035. Further, traffic volumes would increase to a point that it would become difficult for traffic from local streets to enter the system. For example, left and right turn movements from local streets onto OR 62 would become extremely difficult. OR 62 queues block local streets, local street queue lengths begin to build, and system-wide congestion would occur. Consequently, mobility along OR 62 would decrease considerably, as vehicular delay would increase and travel speeds would reduce to approximately half of what they were in 2007.

Figure 1-3 Total Hourly Traffic Volumes on OR 62 at Delta Waters Road



As a result of congestion along OR 62, operations at the key intersections would experience diminished performance and decreased mobility. These conditions can be attributed to the current roadway geometry, intersection delay, and lack of access management. Intersection delay is measured by the average amount of time vehicles are stopped, or delayed, at signalized and un-signalized intersections. For example, at the intersection of OR 62 and Vilas Road, a time delay during the PM peak hour is experienced due to the northbound left turning movements from Vilas Road onto OR 62.

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Documentation of Public and Agency Role in Developing P&N

- UT: West Davis Corridor DEIS



Techniques to note:

- describes opportunity for public and agency comment on the draft P&N, under Sec. 6002 of SAFETEA-LU (23 USC 139)
- summarizes input received from the public and agencies on the draft P&N
- summarizes changes made to P&N following the public and agency input

stations. For this reason, increasing the interconnections between transportation modes has been included as a secondary objective of the WDC Project.

WFRC's Regional Transportation Plan notes that the most appropriate design for a public transportation facility balances the mobility needs of the people (motorists, pedestrians, bicyclists, or transit users) using the facility with the physical constraints of the corridor within which the facility is located.

1.7.5 Pedestrian and Bicycle Facilities

The existing pedestrian and bicycle facilities in the study area consist of bicycle lanes (Class 2 and 3 trails), multi-use paths (Class 1 trails), and sidewalks. Sidewalks are constructed as part of residential developments and are not generally planned on a regional basis. Many of the cities also have pedestrian and bicycle facilities within their city limits. However, bicycle lanes and multi-use paths often serve more than one neighborhood and, in many cases, travel through more than one city. The Denver and Rio Grande Western Trail is the only continuous north-south trail facility in the study area. Currently there are no east-west pedestrian/bicycle facilities through the study area.

Expanded trail facilities are included in the WFRC Regional Transportation Plan [see Figure 1-13, Current (2011) and Future (2040) Bicycle and Pedestrian Trails, in Volume IV]. The regional plan notes that there is a need to incorporate pedestrian and bicycle facilities into transportation projects to balance the mobility needs of people using the facility. UDOT also considers adding trails or pedestrian facilities in order to be consistent with the adopted Regional Transportation Plan. Based on results from the WFRC regional travel demand model, predicted non-motorized trips (bicycle and walking trips) accounted for 2.4% of the 2009 daily home-based work trips in the study area. By 2040, non-motorized trips are predicted to account for 2.3% of the daily home-based work trips.

1.8 Public and Agency Involvement in Developing the Project's Purpose and Need

The project's purpose and need incorporated input from the public and various other sources during the EIS scoping process. Numerous commenters said that roads in the study area are congested and supported both roadway and transit improvements to alleviate the congestion.

FHWA and UDOT published a draft of the project purpose and need document for review by the cooperating and participating agencies listed in Table 1-1 above, Cooperating and Participating Agencies for the WDC EIS, on May 5, 2010, and for review by the public on May 7, 2010. The WDC team gathered comments on the draft document through June 7, 2010. Members of the public and agencies were encouraged to provide comments by e-mail, the project website, and regular U.S. mail. The team received a total of 47 comment submissions on the draft purpose and need.

The draft purpose and need document was also discussed at a combination SAFETEA-LU Agency-Stakeholder Working Group meeting on May 19, 2010.

In general, the comments on the project's purpose and need focused on the following subjects:

- General agreement or disagreement that the WDC is needed
- Opinion that project goals should consider both transportation and environmental values
- Accuracy of assumptions about the future transportation system
- Accuracy of population and employment forecasts and associated assumptions
- Accuracy of land-use assumptions
- Transit and other needs for alternate transportation choices
- Corrections regarding the project history
- Local growth objectives
- Accuracy of the traffic modeling results
- Air quality

Most comment submissions focused on project alternatives. These comments were considered as the WDC team began developing alternative concepts (see Chapter 2, Alternatives).

UDOT and FHWA made changes to the draft purpose and need document in response to these comments and provided the revised document to the agencies and to the public on the project website (www.udot.utah.gov/westdavis). The WDC team did not receive any comments that resulted in major changes to the information supporting the project need or to the project purpose presented in this chapter.

In June 2011, WFRM released version 7.0 of the travel demand model and a new Regional Transportation Plan. The May 5, 2010, draft purpose and need document provided to the public was based on the 2007 Regional Transportation Plan and version 6.0 of the travel demand model. In the summer of 2011, UDOT used version 7.0 of the travel demand model to conduct a sensitivity analysis to determine whether the decisions about the boundaries of the needs assessment study area and the project purpose and need, which were made with version 6.0 of the travel demand model, were still valid with version 7.0 of the travel demand model (for more information, see Section 1.2, Description of the Needs Assessment Study Area).

As stated in Section 1.2, Description of the Needs Assessment Study Area, based on the sensitivity analysis, the northern limits of the study area changed from 12th South to 3000 South in Weber County. The revised study area boundary was provided to the public for comment in November 2011 as part of the release of *Technical Memorandum 15: Alternatives Screening Report* (West Davis Corridor Team 2012). No public or agency comments were received on the revised study area boundary.

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