5 Transportation Element

Introduction

~~The Transportation Element must balance the needs of businesses, neighborhoods, schools, freight, industry, retailers, property owners, parks, subdivisions, airports, and the environment. No single sector of the community should dominate the entire transportation plan; however, each sector of the community can profit by achieving a balanced transportation system. Policies of the Transportation Element are intended to:~~

- ~~improve mobility with a focus on people and goods;~~
- ~~improve the pedestrian and bicycle non motorized network;~~
- ~~improve pedestrian and bike safety and mobility;~~
- ~~establish funding priorities with respect to preservation, maintenance, mobility, and safety of transportation facilities;~~
- ~~enhance access controls on the arterial system in order to improve mobility and safety;~~
- ~~improve the coordination and working partnerships with other jurisdictions; and,~~
- ~~enhance circulation and cross-circulation opportunities to reduce congestion on the arterial system.~~

This Transportation Element (TE) ~~of the Clark County, Growth Management Act (GMA), Comprehensive Plan~~ is prepared in accordance with the GMA. Contained within the TE are projects and implementation measures necessary to effectively serve planned land use throughout unincorporated Clark County. Importantly, this element provides guidance for the design, construction and operation of transportation facilities and services through the year 2035.

Purpose and Background

The purpose of the TE is to present a plan for transportation facilities and services needed to support the county's 2015-2035 future land use map. The TE recommends specific arterial roadway projects for the unincorporated county in order to meet roadway safety and capacity needs. However, it also recommends various implementation strategies to guide the county in its participation in regional transportation planning. Implementation strategies provide guidance on such issues as:

- land use-transportation concurrency;
- arterial, highway, and transit level of service;
- transit emphasis corridors;
- access management;
- transportation demand management (TDM);
- non-motorized transportation;
- air quality conformance; and
- freight and goods mobility.

The county's TE provides an estimate of expenditures and revenues associated with implementing various recommended transportation improvements. It also recommends a financial strategy that would ensure needed transportation improvements are funded. It should be noted that the transportation element can be amended and supplemented by special studies that later provide more detailed policy direction and project recommendations. These special studies would maintain

consistency with the countywide transportation element, while also qualifying and refining its recommendations.

Description of Historical Growth and Development

Clark County's population was estimated at 448,500~~442,800~~ in 2015~~4~~ making it the 5th most populous county in Washington State. The county was the fastest-growing in the state in the 1990s and was second-fastest over the past decade. Growth was spurred by in-migration of new residents, although in 2010, more people moved out of the county than moved in for the first time since 1984. Even with this decline of in-migration between 2000 and 2010 Clark County still experience a 28.3% increase in population which is above the state increase of 18.2%.

The Washington State Office of Financial Management (OFM) provides counties and cities in the State of Washington with county-level growth forecasts to accommodate their planning processes under GMA. OFM's 2012 GMA population projections have a high, medium, and low growth series for each county. The projections of 2035 total population for Clark County ~~under these series~~ are:

- High – 681,135
- Medium – 562,207
- Low – 459,617

OFM considers the medium series to be the most likely projection. The Clark County Council used the medium series — 2035 countywide population of 562,207 — when adopting 2035 initial population targets. The land use assumptions used to estimate future travel demand for this Transportation Element use a 2035 forecast of 577,431 for countywide population.

The Clark County Council adopted a 2035 initial employment target for Clark County of 91,200 jobs. The land use assumptions used to estimate future travel demand for this Transportation Element use a 2035 forecast of 232,500 for countywide employment. Much of the employment growth is expected to occur within the incorporated cities; however, the county will plan for its share of job growth that will occur in unincorporated UGAs.

Growth Management Act Requirements and Policy Foundation

The GMA provides a substantial amount of legal and policy guidance to the county regarding preparation of TEs. The GMA requires a TE that implements, and is consistent with, the land use element of the comprehensive plan ~~(~~RCW 36.70A.070(6)~~)~~. A TE must specifically present:

- land use assumptions used in estimating and forecasting travel;
- estimated traffic impacts to state-owned transportation facilities;
- an inventory of air, water, and ground transportation facilities and services;
- level of service (LOS) standards for all locally owned arterial and transit routes and
- actions necessary to allow transportation facilities and services to meet the standards;
- LOS standards for state highways to gauge system performance;
- forecasts of traffic for at least ten years based on the adopted land use plan
- identification of state and local transportation system needs to meet current and future
- travel demand;
- an analysis of funding capability to judge identified system needs against probable
- funding resources;
- a multi-year finance strategy that balances needs against available funding;
- intergovernmental coordination and impact assessment;
- strategies for reducing travel demand; and

- a pedestrian and bicycle component.

Consistency between the land use and transportation elements of the comprehensive plan is of particular importance. Planned land use must be reflected in the travel forecasts that are prepared to evaluate the impacts of development. The transportation improvements and implementation measures within the transportation element must adequately support planned land use at adopted level of service (LOS) standards. In addition, consistency between the county's overall transportation element, the cities' comprehensive plans, the state's highway plan, and transit development programs needs to be ensured through intergovernmental coordination.

The transportation part of these planning policies are prepared to specifically address the requirements of RCW 36.70A.210(3)(d) and apply to countywide transportation facilities and services. The applicable facilities and services are those that serve travel needs and have impacts beyond the particular jurisdiction(s) within which they are located. Most importantly, the County Wide Planning Policies provide procedural guidance to the county and cities to help ensure consistent transportation planning and implementation.

By law, the Transportation Element must implement and be consistent with other elements of the 20-Year Plan. The policies and ~~level of service (LOS)~~ performance standards contained within this element complement the Land Use Element by providing for transportation needs and infrastructure in urban centers, addressing the needs of neighborhoods and adapting the rural transportation system in support of those policies. This element also integrates the goals and policies~~directions~~ of the Housing (Chapter 2) and Economic Development (Chapter 9) Elements as well as minimizing the environmental impact of transportation systems.

~~**GMA Requirements**~~

~~**The State of Washington's 1990 Growth Management Act (GMA) and amendments mandate the inclusion of a Transportation Element in the Comprehensive Plan. Although the GMA has some very specific requirements, flexibility is written into the law so that each county can tailor its plan to its community goals. Key aspects of the GMA regarding transportation elements include:**~~

- ~~**consideration of many types of transportation (air, water, rail, and land-including roadways, transit, ferries, non-motorized, and freight);**~~

- ~~**recognition of RCW 47.06.140 which defines transportation features and services of statewide significance, and state-adopted levels of service on roadway facilities;**~~

- ~~**recognition and inclusion of highways of regional significance with a regionally designated level-of-service;**~~

- ~~**adoption of level-of-service standards for both arterials and transit routes (see LOS section);**~~

- ~~**flexibility in establishing levels of service to address desired land use goals;**~~

- ~~**consistency with countywide and regional transportation plans is required;**~~

- ~~**provision of adequate transportation service concurrent with (or within three years of) development; and,**~~

- ~~**internal consistency of all elements in the Comprehensive Plan, and particularly the Land Use and Transportation Elements.**~~

Process

The Transportation Element was developed from a number of cooperative transportation planning efforts in the county that included monthly city/county planner coordination meetings and participation in monthly Regional Transportation Advisory Committee meetings. More importantly, t~~T~~he Community Framework Plan provides countywide transportation policies to guide the county and its municipalities with the development of their comprehensive plans and transportation elements. The ~~Metropolitan~~ Regional Transportation Plan for Clark County (Dec. ~~2005~~2014), prepared by the Southwest Washington Regional Transportation Council (RTC), provides the regional framework consistent with transportation planning in the Portland metropolitan region. RTC conducts transportation modeling for Clark County. The Washington State Highway System Plan is an element of the Washington Transportation Plan (WTP) that addresses current and forecasted state highway needs based on the investment options identified in the WTP. ~~(currently being revised) provides guidance on the planned improvements and funding available for those identified projects.~~ Policies from other planning documents have been incorporated into this element. In addition, the county has worked with each city in a partnership planning process to develop a coordinated transportation and land use plan for each urban area. The process of forming this element was as follows:

- Determine existing deficiencies and their cost.

- Determine the community's vision of the desired transportation system. ~~An extensive process of open houses, surveys, public forums, etc., was used to define the community's vision.~~
- Set level-of-service standards to implement the vision.
- Use proposed land use patterns to forecast future travel demand.
- Identify future projects needed to maintain adopted levels of service.
- ~~Determine if the county can afford the projects through grants, traffic impact fees, etc. If not, revert to step 3 and revise LOS standards.~~ Identify a financial plan to develop future projects.

The Transportation Element consists of the following sections:

1. **Transportation Facilities:** This section contains an overall review of transportation facilities such as roads, transit, bikeway, aviation, etc. The review included the existing condition of the facilities, and future expectations. ~~, and implementing/financial strategies to accommodate future growth. The final analysis, most importantly, outlines how the transportation element will be implemented once adopted and provides a system for ensuring concurrency.~~
2. **Level-of-Service:** ~~Level of Service (LOS)~~ Performance standards for arterials set goals for the maximum amount of congestion tolerated on the roadway. ~~LOS~~ Performance standards are used to identify existing and future deficiencies.
3. **Regional Programs:** Development of a balanced Regional Transportation System.
Concurrency: This section outlines the process the county will use to ensure sufficient infrastructure is in place within six years of development as required by the GMA. ~~The county has opted to use a three-year standard.~~
4.
5. **Policies and Strategies**: A comprehensive set of policies to guide the implementation of this element is identified in this section.
6. **Financial Analysis**: A multi-year analysis of funding capability balancing the needs identified in this chapter against likely resources~~.~~, and implementing/financial strategies to accommodate future growth. The final analysis, most importantly, outlines how the transportation element will be implemented once adopted and provides a system for ensuring concurrency.

1. Transportation Facilities

~~Roads~~Regional Transportation Facilities

An inventory of Clark County's transportation system establishes baseline conditions to serve as a starting point for the identification of future system needs. State law requires an inventory of air, water and ground transportation facilities. The inventory includes Clark County facilities, C-Tran system and general aviation airport facilities. It also includes state-owned transportation facilities within Clark County's boundaries. The regional transportation system includes all state transportation facilities and services (including highways, state-owned park-and-ride lots, etc.), local freeways, expressways, principal arterials, high-capacity transit systems~~,~~ and other transportation facilities and services like airports, rail facilities and marine facilities.

Functional Classification

Functional classification is the grouping of highways, roads and streets by the character of service they provide and was developed for transportation planning purposes. Basic to this process is the recognition that individual routes do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads. Comprehensive transportation planning, an

integral part of total economic and social development, uses functional classification to determine how travel can be channelized within the network in a logical and efficient manner. Functional classification defines the part that any particular route should play in serving the flow of trips through a highway network. Table 5.1 shows the Federal Functional Classification inventory for each classified roadway type and its proportional share of the entire roadway system in Clark County.

Table 5.1 Federal Functional Mileage Classification, Clark County's Classified and Local Roads, 2015

FACILITY TYPE	URBAN AREA	TOTAL CLARK COUNTY	PERCENT OF TOTAL
MINOR ARTERIALS*	56.74	82.87	3.6%
URBAN COLLECTORS & RURAL MAJOR COLLECTORS	308.10	622.27	27.1%
RURAL MINOR COLLECTORS	0.0	206.20	9.0%
LOCAL ROADS	821.41	1382.53	60.3%
TOTAL	1186.25	2293.87	100.0%

*Includes Principal Arterials Source: Clark County Public Works Road Log 2015

~~The GMA requires an inventory of existing conditions for specific modes of transportation (Figure 20). A description of transportation infrastructure, LOS standards, and concurrency are addressed in this section and in greater detail in Appendix A.~~

In Clark County interstate and state highway facilities are I-5, I-205, SR-14, SR-500, SR-502 and SR-503 and a WSDOT park and ride lot at I-5/Ridgefield Junction. (see Table 5.2).

Table 5.2: State Route Mileage in Clark County (2014)

Facility	Begins	Ends	Route Mileage
I-5	Oregon State Line, Interstate Bridge	Cowlitz Co. Line	20.47
I-205	Oregon State Line, Glenn Jackson Bridge	I-5 Interchange	10.57
SR-14	Interchange with I-5, Vancouver	Skamania Co. Line	21.52
SR-500	Interchange with I-5	SR-14Intersection, Camas	22.64
SR-501 S. Section	Interchange with I-5	Terminus of south segment	10.99
SR-501 Couplet	Interchange with I-5	Franklin Street, Vancouver	0.55
SR-501 N. Section	City of Ridgefield	Interchange, I-5 at Pioneer	2.97
SR-502	Intersection with I-5, at N.E. 219th St.	Intersection with SR-503	6.12
SR-503	Intersection with SR-500	Cowlitz Co. line	26.58

Source: WSDOT STATE Highway Log

Highway System Segments: Interstates and State Routes. Interstate highways are designed to provide for the highest degree of mobility serving large volumes of long-distance traffic; they are not

designed to provide access to land uses. State Routes (SR) serve large volumes of traffic between counties or regions.

~~I-5~~

I-5 provides ~~Clark County has a~~ 20.47 miles in Clark County ~~section of Interstate 5~~ providing for north-south travel from Mexico to Canada. Within Clark County, I-5 has three primary lanes of travel in each direction from the Interstate Bridge north to NE 134th Street. North of the I-5/I-205 interchange there are three travel lanes in each direction.

I-205 is a
~~A~~ 10.57 mile stretch of I-205 traverses Clark County until it joins I-5 just north of N.E. 134th Street. I-205 was constructed as an alternative route to I-5, as a by-pass facility through the Portland/Vancouver metropolitan area. I-205 crosses the Columbia River over the Glenn Jackson Bridge opened in 1982. The Glenn Jackson Bridge has four travel lanes in each direction. North of the bridge the facility has three lanes in each direction to a point just north of the interchange with SR-500. I-205 continues north to its terminus as a two lane facility in each direction.

~~SR-14~~

SR-14 provides the main east-west access from the City of Vancouver east to I-82 running along the north bank of the Columbia River. The facility extends through Clark County to the Skamania County line with two lanes in each direction up to milepost 12 and one lane in each direction thereafter.

~~SR-500~~

SR-500 is entirely within Clark County and allows for east-west cross-county travel. It crosses I-205, provides access to the Orchards area, then traverses rural Clark County until it reaches the Camas urban area. SR-500 intersects with SR-14 in Camas. The facility carries traffic to and from the Clark County regional shopping mall. The segment of SR-500 between I-5 and I-205 was first opened as a limited access facility in 1984. The segment of SR-500 / Fourth Plain Blvd between SR-503 and NE 162nd Avenue was transferred to local jurisdiction in 2006. It was replaced by designating Padden Parkway between SR-503 and NE 162nd Avenue at Ward Rd as the new SR-500 alignment.

~~SR-501~~

SR-501 is comprised of two unconnected segments. The south segment extends from the interchange with I-5 westward with three lanes in each direction along the Mill Plain/15th Street couplet to Columbia Street. West of Columbia the facility is two lanes in each direction. This segment of SR-501 carries traffic to and from the Port of Vancouver. The facility reduces to two lanes, one in each direction, and branches into two in the Vancouver Lake lowlands area with both branches terminating in the lowlands. The northern segment of SR-501 extends as a two-lane facility from I-5 westward to the City of Ridgefield where it terminates. Originally it was intended that the two segments be joined to complete a circumferential route around the west side of the Vancouver urban area and to carry traffic to and from the lowlands industrial area. However, the facility was never completed.

~~SR-502~~

SR-502 extends from the I-5/~~N.E. 179th Street interchange northward to~~ N.E. 219th Street Interchange to ~~where it turns eastbound toward~~ Battle Ground. ~~SR-503 extends northward from~~

its intersection with SR-500. It carries traffic between the Vancouver urban area and North County through Battle Ground. SR-503 extends into Cowlitz County.

National Highway SystemATIONAL HIGHWAY SYSTEM (NHS)

In Clark County, the National Highway System includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. It is designated to focus federal investment on a set of high priority routes. Initially, ISTEA required that roads be designated as National Highway System (NHS) facilities and Congress approved the initial NHS System with passage of the National Highway System Designation Act of 1995 (NHS Act). Under Section 1104 of MAP-21 (2012), update and expansion of the NHS was required to additionally include urban and rural principal arterials that were not included in the NHS before October 1, 2012. This resulted in increasing the NHS in Clark County from about 78.5 centerline road miles to about 148.5 centerline road miles. Maps of the 2012 expanded NHS system, a sub-set of the MTP's designated regional transportation system, are available on FHWA's website.

Highways of Statewide Significance (HSS)

In 1999 the state legislature adopted Highways of Statewide Significance, fulfilling a requirement of House Bill 1487 passed in 1998. In Clark County highway facilities defined as "of Statewide Significance" are I-5, I-205, SR-14 and part of SR-501 to access the Port of Vancouver.

Functional Classification

Highways, roads, and streets are classified into groups having similar characteristics for providing mobility and/or access. The functional classification also dictates the design standards of roadways. There are several functional classification schemes. Table 5.1 shows the Federal Functional Classification inventory of mileage for each classified roadway type and its proportional share of the entire roadway system in Clark County.

Table 5.1 Federal Functional Mileage Classification Clark County's Classified and Local Roads, 2006

FACILITY TYPE	URBAN AREA	TOTAL CLARK COUNTY	PERCENT OF TOTAL
Interstates	22.12	31.35	1.1%
Expressways & Principals	99.51	108.74	3.9%
Minor Arterials	139.27	164.18	5.9%
Urban Collectors & Rural Major Collectors	148.90	321.95	11.6%
Rural Minor Collectors	0.0	115.58	4.1%
Local Roads	985.88	2020.76	73.1%
Total	1395.68	2762.54	100.0%

Source: WSDOT, 2006

State transportation facilities in Clark County can be classified as either interstate highways or state routes:

Interstate Highways: Interstate highways are designed to provide for the highest degree of mobility serving large volumes of long-distance traffic; they are not designed to provide access to land uses. Clark County has a 20.78 mile section of Interstate-5 providing for north-south travel from Mexico to Canada. Within Clark County, I-5 has three primary lanes of travel in each direction from the Interstate Bridge north to NE 134th Street. North of the I-5/I-205 interchange there are three travel lanes in each direction.

Interstate 205 was constructed in the early 1980's as an alternative route to I-5. As a by-pass facility through the Portland/Vancouver metropolitan area, I-205 parallels I-5 from approximately Wilsonville, OR to NE 134th Street in Washington. I-205 crosses the Columbia River over the Glenn Jackson Bridge that was opened in 1982. The Glenn Jackson Bridge has four travel lanes in each direction. North of the bridge the facility has three lanes in each direction to a point just north of the interchange with Washington State Route-500. I-205 continues as a two lane facility in each direction until it joins I-5, just north of 134th Street.

Washington State Routes: State Routes (SR) serve large volumes of traffic between counties or regions.

SR-14 provides the main east-west access from the City of Vancouver east to Idaho running along the north bank of the Columbia River. The facility extends through Clark County to the Skamania County line with two lanes in each direction up to milepost 12 and one lane in each direction thereafter.

SR-500 is entirely within Clark County and allows for east-west cross-county travel. It crosses I-205, provides access to the Orchards area, then traverses rural Clark County until it reaches the Camas urban area. SR-500 intersects with SR-14 in Camas. The facility carries traffic to and from the Clark County regional shopping mall. The segment of SR-500 between I-5 and I-205 was first opened as a limited access facility in 1984. The segment of SR-500 / Fourth Plain Blvd between SR-503 and NE 162nd Avenue was transferred to local jurisdiction in 2006. It was replaced by designating Padden Parkway between SR-503 and NE 162nd Avenue at Ward Rd as the new SR-500 alignment.

SR-501 is comprised of two unconnected segments. The south segment extends from the interchange with I-5 westward with three lanes in each direction along the Mill Plain/15th Street couplet to Columbia Street. West of Columbia the facility is two lanes in each direction. This segment of SR-501 carries traffic to and from the Port of Vancouver. The facility reduces to two lanes, one in each direction, and branches into two in the Vancouver Lake lowlands area with both branches terminating in the lowlands. The northern segment of SR-501 extends as a two-lane facility from I-5 westward to the City of Ridgefield where it terminates. Originally it was intended that the two segments be joined to complete a circumferential route around the west side of the Vancouver urban area and to carry traffic to and from the lowlands industrial area. However, the facility was never completed.

SR-502 extends from the I-5/N.E. 179th Street interchange northward to N.E. 219th Street where it turns eastbound toward Battle Ground. SR-503 extends northward from its intersection with SR-500. It carries traffic between the Vancouver urban area and North County through Battle Ground. SR-503 extends into Cowlitz County.

Table 5.2 State Route Mileage in Clark County

Facility	Beginning Mile Post	Begins at: (Description)	Ending Mile Post	Ends at: (Description)	Route Mileage

~~I-5~~	~~0~~	~~Oregon State Line on Interstate Bridge~~	~~20.78~~	~~Cowlitz Co. Line~~	~~20.78~~
~~I-205~~	~~0~~	~~Oregon State Line on Glenn Jackson Bridge~~	~~10.57~~	~~Interchange with I-5~~	~~10.57~~
~~SR-14~~	~~0~~	~~Interchange with I-5, Vancouver~~	~~21.77~~	~~Skamania Co. Line~~	~~21.77~~
~~SR-500~~	~~0~~	~~Interchange with I-5~~	~~20.37~~	~~Intersection with SR-14, Camas~~	~~20.37~~
~~SR-501 S. Section~~	~~0~~	~~Interchange with I-5~~	~~12.72~~	~~Terminus of south segment~~	~~12.72~~
~~SR-501 Couplet~~	~~0.61~~	~~Interchange with I-5~~	~~1.16~~	~~Franklin Street City of Vancouver~~	~~0.55~~
~~SR-501 N. Section~~	~~16.91~~	~~City of Ridgefield~~	~~19.88~~	~~Interchange with I-5/N.E. 269th St.~~	~~2.97~~
~~SR-502~~	~~0~~	~~Intersection with I-5, at N.E. 179th St.~~	~~7.56~~	~~Intersection with SR-503~~	~~7.56~~
~~SR-503~~	~~0~~	~~Intersection with SR-500~~	~~27.87~~	~~Cowlitz Co. line~~	~~27.87~~

~~*Source: WSDOT, 2006*~~

The county's arterial functional classification system and the cross-sections for non-local roadways in the county's jurisdiction are provided in the adopted Arterial Atlas. The information provided in that document for the county arterial roadways represents the county's adopted policy with respect to how the individual roadways are classified into the system described in this section of the Comprehensive Plan.

Principal Arterial Parkways such as the Padden Parkway ~~are~~ is the highest classification within the county's functional system. Their purpose is to move high volumes of relatively long distance traffic speedily across the county or region. Direct land access is prohibited or minimal, and then only to major activity centers of regional impact. The level of fixed route transit service is high; bicycle and pedestrian activity is on a parallel trail facility.~~They carry high volumes of traffic through the urban area and between major activity centers of regional impact. Access is normally limited to intersections with other arterials. Direct land access is prohibited.~~

Principal Arterials: Urban principal arterials (such as NE 78th Street or NE Fourth Plain Road) permit traffic flow through the urban area and between major elements of the urban area. Principal arterials ~~They are of great importance in the regional transportation system as they~~ connect major traffic generators to other major activity centers and carry a high proportion of the total urban area travel on a minimum of roadway mileage. They move high volumes of traffic speedily across the county or region, but with volumes and speeds below those of the principal arterial parkway classification. Access is generally limited to intersections with other arterials and collectors. Direct land access is minimal and controlled, but less restrictive as compared to principal arterial parkway. Frequently principal arterials carry important intra-urban as well as intercity bus routes.

Minor Arterials: Urban minor arterials (such as Hazel Dell Avenue or NE 99th Street) collect and distribute traffic from principal arterials to streets of lower classifications or allow for traffic to directly access destinations. Access to land use activities is generally permitted. They are primarily designed to accommodate through-traffic but may provide direct access for more intensely developed properties. Fixed route transit, bicycle, and pedestrian activity is moderate.

Collectors: Urban collectors (such as NE 88th Street) provide for land access and traffic circulation within and between residential neighborhoods and commercial and industrial areas. Collectors do not handle long through trips and are not continuous for any great length. Fixed route transit service is low while bicycling and pedestrian activity ranges from moderate to high.

Local Streets: Urban local streets provide direct access to abutting land and access to the higher classification facilities. They offer the lowest level of mobility and usually contain no bus routes. They are not intended to carry through traffic but make up a large percentage of the total street mileage.

~~emphasize access to land uses versus mobility and usually do not contain bus routes.~~

~~**Rural Arterials:** Rural arterials are sub-divided into two sets: (1) interstatefacilities, and (2) other principal arterials. They consist of a connected rural network of continuous routes and provide an integrated network without stub connections.~~

~~Rural arterials are a classification which provides for the future extension of urban principal arterials and some urban minor arterials into rural areas. There also may be portions of rural major collectors that warrant re-designation along sections of the roadway where there are congested intersections or where safety conditions would be mitigated by additional roadway width or other design features. Land access should be limited to the lower classification roadway only. Portions of NE 72nd Avenue fit this designation.~~

Rural Major Collectors: Rural major collectors are usually extensions of urban principal arterials and some urban minor arterials into the rural area. Their primary purpose is to link rural activity centers with larger towns nearby, and to connect them to state arterial routes. Mostly, they serve intra-county travel. Land access remains subordinate to traffic movement. The level of fixed route transit, bicycle, and pedestrian activity is low.~~Rural major collectors provide mobility within rural areas and connect rural areas to state routes and larger communities. (e.g. NW Hillhurst Rd) Rural major collectors are sometimes extensions of urban arterials and collectors into rural areas.~~

Rural Minor Collectors: Rural minor collectors (e.g. NE Kelly Road) are rural extensions of urban collectors and some urban minor arterials. They connect rural areas to major collectors and state routes.

Public Transportation Options

Clark County Public Transit Benefit Area Authority (C-TRAN) ~~Public Transit System~~

C-TRAN is the primary provider of public transit services in Clark County. The agency was formed by a public vote in 1980 and currently serves the municipalities of Vancouver, Camas, Washougal, Battle Ground, and Ridgefield, La Center, the town of Yacolt and areas of unincorporated Vancouver. C-TRAN is governed by a nine member board of directors that includes two Clark County Councilors, three Council members from the City of Vancouver, and one member each from Camas, Washougal, Battle Ground, and one member representing Ridgefield, La Center and Yacolt.

C-TRAN's system includes three transit centers at 1) Fisher's Landing, 2) 99th Street at Stockford Village and 3) Vancouver Mall as well as nine park and ride lots. Some are operated under a site use agreement. The nine C-TRAN park and ride facilities provide more than 2,200 parking spaces at 1) Andresen, 2) BPA Ross complex, 3) Camas/Washougal, 4) Evergreen, 5) Fisher's Landing Transit Center, 6) La Center, 7) 99th Street Transit Center at Stockford Village, 8) Ridgefield, and 9) Salmon

Creek. In addition to the three transit centers, C-TRAN manages seven park-and-ride lots providing over 1,600 parking spaces with direct access to express commuter services and local routes.

Fixed Route Services -

C-TRAN provides fixed route service on 18 local, 7 commuter and 4 limited routes in addition to dial-a-ride based service known as the Connector, in Camas, Ridgefield and La Center. C-TRAN also operates C-VAN to provide ADA complementary paratransit service for persons who are unable to use regular C-TRAN buses. The C-TRAN fleet currently has 171 vehicles to carry out these services.

C-TRAN operates seven days a week and on holidays serving the greater Vancouver area. Operating hours are generally 4:30 a.m. to 9:30 p.m. on weekdays (with key urban routes operating until midnight), 7:00 a.m. to 8:00 p.m. on Saturdays, and 8:00 a.m. to 7:00 p.m. on Sundays/holidays. C-TRAN provided 280,922 total vehicle hours and 254,632 revenue hours of fixed route service in 2013, with ridership totaling 6,193,249 in 2013.

C-TRAN also provides commuter service into TriMet's downtown Portland transit mall and connecting service to the MAX light rail system at the Parkrose/Sumner Transit Center and the Delta Park/Vanport Light Rail Station. These access points allow C-TRAN passengers to reach destinations in the Portland metropolitan area, including Portland International Airport. Over 6.9 million fixed route passenger trips were provided in 2008, with passengers traveling nearly 37 million miles. All C-TRAN routes meet Americans with Disabilities Act (ADA) accessibility requirements.

Connectors –

C-TRAN's Connector provides the cities of Camas, La Center, and Ridgefield with fully accessible dial-a-ride (reservation based service) and scheduled stop service (no reservation required) at designated stops within the service areas. Rides are provided on a first-come, first-served basis.

Shopping Shuttle -

C-TRAN's Shopping Shuttle provides residents of Smith Tower, Lewis & Clark, and Columbia House apartments direct access to major shopping destinations, twice monthly.

Paratransit -

C-TRAN's paratransit service, known as C-VAN, meets ADA requirements for complementary paratransit service. C-VAN provides wheelchair accessible, curb-to-curb services for elderly and disabled persons who cannot use fixed route services. C-VAN currently operates within the Vancouver urban growth area (UGA) and within 3/4 mile of fixed routes operating outside the Vancouver UGA.

Human Services Council: Transportation Brokerage.

The Human Services Council Transportation Brokerage arranges rides for elderly, low income and people with medical needs and disabilities through contracts and arrangements with a variety of transportation providers. This service is highly valued in the community by people that have no access to C-TRAN or C-VAN services or for people for whom regular transit service does not work. Between January 1, 2010 and June 30, 2010 HSC brokered over 35,500 employment transportation trips and served 960 unique individuals. Continuation of the Brokerage services is dependent on grant funding.

Inter-City Bus

Inter-city bus service to cities throughout the northwest and nation-wide, provided by Greyhound Bus Lines, is no longer available from Vancouver. The Greyhound bus service stop in Vancouver, Washington closed on January 1, 2009. Access to Greyhound and Bolt Bus service is now only available in Portland, Oregon. Northwest Trailways which had service in the region in 2007, no longer operates out of Washington or Oregon.

Rail

There are two mainline rail lines, both owned by Burlington Northern Santa Fe (BNSF), that run through Clark County. The mainlines carry both freight and passengers. In addition, the Lewis and Clark Railroad is a 33-mile short line railroad owned by Clark County.

BNSF Seattle/Vancouver line is in excellent condition and has 70 to 80 trains operating in the corridor each day. The BNSF Vancouver/Eastern Washington line is also in excellent condition and handles about 40 trains daily. Union Pacific Railroad operates some freight trains to Tacoma and Seattle on BNSF's lines.

Amtrak has an agreement with BNSF to operate passenger service on the freight carrier's rail lines. Amtrak trains serve Vancouver daily. During the 1990s Washington and Oregon began to invest transportation funds to improve local Amtrak service. In 1993, Amtrak offered a single local daily round-trip connecting Eugene and Seattle with ridership totaling 94,061 trips. By 2011, service has grown to four daily Amtrak Cascades roundtrips operating between Seattle and Portland, with two extending to Eugene and Vancouver BC, Canada. Between 1993 and 2013, ridership increased by 758% from 94,061 annual riders in 1993 to 807,349 riders in 2013. 72,500 passengers boarded or deboarded at the Vancouver Amtrak station in 2013.

The Coast Starlight, with service between Seattle and Los Angeles, via Vancouver and Portland, also provides once a day, daily service. The Empire Builder also provides one train a day, on a daily basis, between Chicago and Spokane from where one part of the train continues to Seattle and the other part continues, via Pasco and Bingen-White Salmon, to Vancouver with service terminating in Portland.

The Pacific Northwest Rail Corridor is one of eleven designated high-speed corridors in the nation. Its designation pre-qualifies the region for federal high speed rail funding. In late 1995, the Washington State Department of Transportation (WSDOT) and project partners published Options for Passenger Rail in the Pacific Northwest Rail Corridor report. An Environmental Impact Statement on corridor improvements was completed and construction of rail corridor improvements began in 1998. Custom-built Talgo trains are now in service on Amtrak's Pacific Northwest Rail Corridor service. The Vancouver Amtrak station facility was upgraded as part of the Eugene to Vancouver B.C. passenger rail service improvements. In the early 2010's, the Vancouver Rail Project improvements in the vicinity of the Vancouver Yard were made with the intent of increasing safety, reducing rail congestion, and improving on-time performance of Amtrak's passenger rail service. The project added a new rail bypass track and a grade separated crossing of the rail lines for vehicles using west 39th Street in Vancouver was opened in 2010.

Clark County Railroad is a 33-mile short line located in Clark County, Washington. It is southwest Washington's only operating short line, with connections to the BNSF. The line is owned by Clark County government and operated by the Portland Vancouver Junction Railroad Company, a private operator.

The line diverges from the main BNSF northern line around NW 78th Street and traverses the County via Rye Yard off St Johns Road and Battle Ground to its terminus at Chelatchie Prairie. This short line

railroad is also known as the Lewis and Clark Railroad or the Clark County Railroad. The operating and maintenance responsibilities for the line are leased out under long-term operating contracts to two different railroad operators. On the line segment from Heisson to the south, the Portland Vancouver Junction Railroad (PVJR) is responsible for freight operations. At present, this line segment serves the only active freight shippers on the railroad's main freight corridor. On the line north of Heisson, the Battle Ground, Yacolt, and Chelatchie Prairie Railroad Association (BYCX), a volunteer group, is operating a passenger excursion program originating in Yacolt. On the lower 14 miles from Rye Junction to Battle Ground, it is anticipated that considerable freight growth will continue through the freight operator to help support the economic development vision for Clark County. The upper 19 miles is anticipated for some possible freight operations and tourism. In 2007, the County was awarded $1.1 million from the WSDOT Rail Emergent Fund for rehabilitation to the lower 14 miles of track. Clark County will continue to pursue state and federal grants to upgrade the track to Class 1 status for safer operation and increased freight on both the upper and lower lines. A new trans-load facility has been created between 78th and 88th Streets. Under the Comprehensive Growth Plan (Clark County, 2007), the County has designated an area for railroad industrial. This will enable the development of industry and growth in shippers who will use the line.

Port Districts

Clark County has three port districts: the Port of Vancouver, the Port of Camas-Washougal, and the Port of Ridgefield. Only the Port of Vancouver provides commercial waterborne shipping facilities.

Port of Vancouver, USA, is situated at the terminus of the Columbia River's deep draft channel and forms a natural gateway to the river-barge ports of eastern Oregon/Washington and northern Idaho. The Port operates international cargo docks. It is the third-largest port in the state of Washington. It has five marine terminals, provides 13 deep-draft vessel berths and has two 140-metric ton mobile harbor cranes to enable heavy lift cargo.

The Port is located within 2 miles of I-5 and is served by Burlington Northern Santa Fe and Union Pacific Railroad, Canadian National and Canadian Pacific railroads. The Port of Vancouver has 800 acres of developed industrial and marine property with over 50 industrial tenants. Over 2,300 people are directly employed by these businesses and nearly 17,000 jobs are connected to port activities. The Port has over 500 additional acres of land for future development. Work began in 2004 on the National Environmental Policy Act (NEPA) process for this additional land's development as part of the Port's Economic Development & Conservation Plan. The Port's future development includes the Columbia Gateway area. The Port focused attention on rail access improvement with a Simulation and Access Study. The Port is implementing the West Vancouver Freight Access Project in phases which is included in the RTP's list of projects.

Port of Camas/Washougal provides facilities and services for land, air, water based commerce and to enhance employment and recreational opportunities, contributing to the quality of life in the community. The 430-acre industrial park, located south of SR-14 by Index and 27th to 32nd Streets, was created in 1966 when the U.S. Army Corps of Engineers created a 5.5-mile levee along the Columbia River. It is home to an average of 48 businesses with approximately 1,000 employees, and an annual payroll exceeding $30 million. Steigerwald Commerce Center, the 120+ acres east of the Industrial Park, is the site of future development. The marina has moorage to

accommodate 350-plus boats and a 4-lane launch ramp. The Port district also operates Grove Field Airport (described in a later section).

Port of Ridgefield is located about 15 miles north of Vancouver USA. The Port's taxing district extends over 57 square miles and the district is bisected by the I-5 corridor. The Port adopted the Port of Ridgefield Comprehensive Plan in 2008. Port owned assets include a 41-acre site on Lake River, 3 miles from I-5, with a programmed bridge project over the BNSF rail lines which will enhance access to the site and 3 parcels (18 acres) of land in the 78-acre Ridgefield Industrial Park located at the southwest quadrant of I-5 and Pioneer Street. The Port-developed Ridgefield Industrial Park is now home to over twenty businesses providing some 800 jobs.

Aviation

Airports and air transportation services are provided in the context of a complex set of federal, state, and local governmental regulations, and each level of government has a certain degree of control over parts of the air transportation system. The Federal Aviation Administration (FAA), deals primarily with issues of safety and air traffic control. The Washington State Department of Transportation's Aeronautics Division currently focuses primarily on general aviation airports and has some direct involvement with major passenger airports. Local jurisdictions (city, county, or port district) influence land use and usually are the airport operating authorities.

There are three publicly-owned and seventeen privately-owned airfields operating in Clark County. The publicly owned fields are Pearson, Grove, and Woodland. The privately-owned fields which are available for public use are Cedars North Airpark Airport, Goheen and Fly for Fun.

The National Plan of Integrated Airport Systems (NPIAS) and the State Aeronautics Division in the Washington State Airport System Plan (WSASP) categorize these airports as general aviation airports. Amphibian aircraft are allowed in the Columbia River and several area lakes. The Resource Document contains a description of each of the airfields in Clark County. Portland International Airport (PDX) is located in Portland, Oregon, to the southwest of the I-¬205 Glenn Jackson Bridge. This is a regional airport with domestic and international passenger and freight (cargo) service. Passenger airlines serving PDX include Air Canada, Alaska Airlines, America West, American, Condor, Delta, Frontier, Hawaiian, Icelandair, Jet Blue, Pen Air, Sea Port Airlines, Southwest, Spirit Airlines, United, Virgin America and Volaris. ~~Continental, Delta, Frontier Hawaiian, Horizon, Lufthansa, Mexicana, Northwest, Skywest, Southwest, Sun Country, United and United Express.~~ Cargo carriers serving PDX include American Airlines, ~~Airborne, Air China, Kitty Hawk,~~ AmeriFlight, ~~BAX Global, Cargolux Airlines International,~~ DHL ~~Worldwide Express~~, ~~Emery~~, Empire, ~~Evergreen,~~ Federal Express, Frontier, Hawaiian, United UPS and Western Air Express ~~Korean Air~~.

An important example of an economic benefit that can be derived from airports is the ability to attract compatible land use developments (e.g., commercial or industrial) on or near airport property. In many instances, land immediately on or adjacent to an airport is flat, easily developed and relatively inexpensive when compared to more centrally located business district sites.

~~The Washington State Department of Transportation's Aviation Division, as well as local pilots' associations, have requested that an additional airport be sited in Clark County. In the late 1980's, a study was conducted to examine the feasibility of siting an airport in the Ridgefield Junction area. Public concern about the noise and traffic impacts of this airport resulted in not considering a new airport at that time.~~

~~A number of studies have been undertaken regarding airports, both specifically and generally in the last 20 years. An airport system plan was developed in 1984. Land use plans that incorporated airport~~

~~issues were completed in 1979 (countywide) and in 1987 (Ridgefield Subarea Plan) and 1988 (South County Subarea Plan). The February 2000 Clark County Airport Advisory Task Force Report concluded that there are inadequate general aviation capacity in the county and protection and preservation of existing facilities is needed. They report also stresses the need for two-way dialog with the Port of Portland and Oregon Department of Transportation as Clark County depends economically on proximity to Oregon airports.~~

~~While these plans identified the location of existing airports on the Comprehensive Plan and recommended certain land use regulations be considered to protect the airport activities from being compromised, county ordinances were specifically amended to address some of the identified concerns of the Task Force. Applicable federal and state laws affecting land use around airports have been followed.~~

One of the several requirements of the GMA is that the comprehensive plan of each jurisdiction should include a process for identifying and siting essential public facilities, including airports and state and regional transportation facilities, per RCW 36.70A.200.

The local planning authority and the airport sponsor should work together to ensure that the needs of both the local and aviation communities are met and compatible land uses are planned for the future. It is important for the 20-Year Plan to include the general aviation airports when planning long-term transportation improvements.

Regional Transportation System Performance

Existing Traffic Volumes

Clark County has seen significant growth in traffic volumes in recent years as a result of socio-economic and demographic changes. ~~Congestion at most intersections reflects the increases in traffic volumes on the roadway segments.~~ RTC compiles traffic count data from local jurisdictions and other sources, and makes the compiled data available their website. Traffic count data is factored to adjust for seasonal, monthly, weekly and daily fluctuations in volumes. Examples of growth in traffic volumes at selected Clark County locations are listed in Table 5.3, with comparisons between the traffic count in 1985 and the most recent traffic counts available. The economic downturn beginning in 2008 appeared to have had an effect on traffic counts with some count locations reporting slightly lower counts years 2008 and 2009 compared with 2006 and 2007 counts.

~~Table 5.3 shows the change in traffic volume on state and some regional facilities.~~

Table 5.3~~3~~ ~~Changes in~~ Traffic Volume~~s~~; 1985 ~~– 2005~~to Current Years

Location	1985 Volumes	Current Volumes	Year of Current Volumes	% Increase	Annual % Increase
I-5 Bridge	92,301	130,511	2013	41%	1.5%
I-5, South of SR-500	54,400	130,992	2007	141%	6.4%
I-5, South of NE 78th St	52,784	94,982	2007	80%	3.6%
I-5, South of Woodland	33,748	66,906	2013	98%	4.5%
Hwy 99, South of NE 99th St	19,653	17,873	2010	-9%	-0.4%
I-205 Bridge	52,568	149,724	2013	185%	6.6%
I-205, South of SR-500	40,440	122,292	2010	202%	8.1%
78th St, West of Hwy 99	23,646	37,051	2012	57%	2.1%
164th Ave, South of SE 34th St	7,052	36,937	2013	424%	15.1%

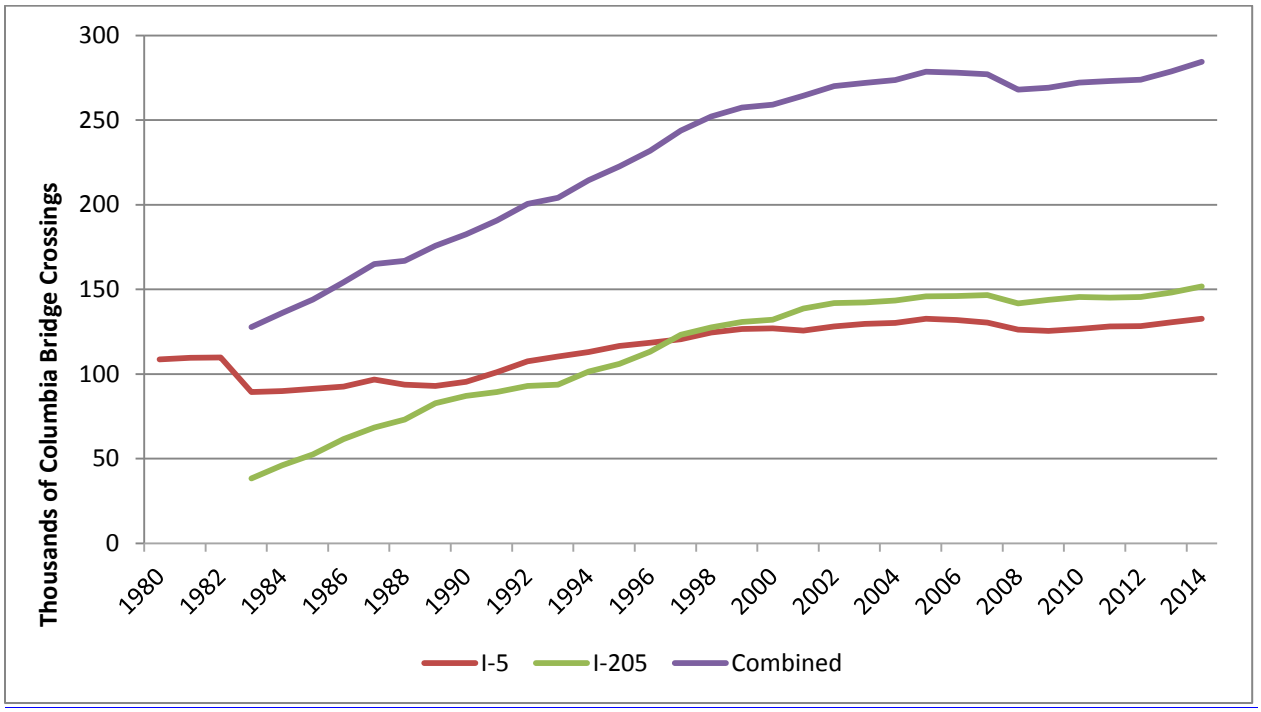
Fourth Plain Blvd, West of NE Andresen	16,060	21,743	2006	35%	1.6%
Fourth Plain Blvd., West of 137th Ave	14,671	27,483	2011	87%	3.4%
Mill Plain, East of NE Andresen Rd	21,021	20,558	2012	-2%	-0.1%
Mill Plain, East of NE Chkalov	18,220	45,916	2011	152%	5.8%
SR-14, West of SE 164th Ave	22,600	80,771	2007	257%	11.7%
SR-14, West of NW 6th Ave	17,600	42,567	2013	142%	5.1%
SR-500, West of NE Andresen Rd	20,054	55,277	2012	176%	6.5%
SR-500, West of 137th Ave	14,671	29,570	2005	102%	5.0%
SR-503, South of NE 76th St	17,460	35,269	2009	102%	4.2%
SR-503, South of SR-502	7,360	22,211	2012	202%	5.5%
139th St., West of NE 10th Ave	11,218	20,816	2010	86%	3.4%

Notes: Volumes are based on the total number of vehicles entering an intersection on an average weekday, and are approximate due to the annual variability. Freeway ramp intersections with streets were not considered for this table.

Source: RTC's Regional Traffic Count Program.

Permanent traffic recorders are in place on the I-5 and on the I-205 bridges. RTC compiles the Columbia crossing traffic counts provided by Oregon Department of Transportation from these recorders or from estimates provided by ODOT. In March 1995 RTC published the *Columbia River Bridge Traffic, 1961 - 1994* report and continues to report on river crossing data online. Figure 5.1 shows the average weekday traffic volumes crossing the Columbia River bridges, 1980 to 2013. In 2013 the estimated average weekday traffic (AWDT) volumes on the I-5 Interstate Bridge were 130,511 and on the I-205 Glenn Jackson Bridge were 148,152. In 2013, the average northbound weekday evening peak hour crossings of the I-5 Interstate Bridge were 4,572 and 7,411 on the I-205 Glenn Jackson Bridge. In the southbound direction, average weekday morning peak hour crossings were 5,646 on the I-5 Interstate Bridge and were 7,424 on the I-205 Glenn Jackson Bridge.

Figure 5.1: Average Weekday Columbia River Bridge Crossings, 1980-2014



Source: Oregon Department of Transportation

The highest daily traffic ever recorded on the I-5 Interstate Bridge was on Friday July 2, 2004 when 157,301 bridge crossings were made. The highest evening peak hour traffic ever recorded on the I-5 Bridge was on Tuesday, May 28, 1996 when 10,838 bridge crossing were made. For the northbound direction, the highest evening peak hour traffic was recorded on Thursday, June 11, 1998 when 5,987 bridge crossings were made. For the southbound direction, the highest morning peak hour traffic was recorded on Wednesday March 31, 2004 when 6,119 bridge crossings were made.

The I-205 Glenn Jackson Bridge's highest daily number of crossings recorded was on Friday, July 25, 2014 with 172,683 crossings. The highest evening peak hour traffic recorded on the I-205 Glenn Jackson Bridge was on Thursday, August 3, 2006 when 13,284 bridge crossings were made. The highest northbound evening peak hour traffic recorded on the Bridge is the 8,426 crossings made on Friday May 24, 1996. For the southbound direction, the highest morning peak hour traffic was recorded on Tuesday, October 7, 2003 when 8,247 bridge crossings were made. The highest all-day total river crossings were recorded on Friday, July 2, 2004 when 325,095 trips crossed the Columbia river on the I-5 Interstate and I-205 Glenn Jackson bridges.

Regional transportation system intersections with the highest traffic volumes, measured in terms of number of vehicles entering an intersection on an average weekday, and are approximate due to the variability from year to year, month to month, and day to day, are listed in Table 5.4.

Table 5.4 Highest Volume Intersections in Clark County, 2014

Rank	East-West	North-South	Approx. Volumes	Count Year
1	Mill Plain Blvd.	Chkalov Drive	79,000	2014
2	State Route 500/Fourth Plain	State Route 503	72,000	2012
3	State Route 500	NE 54th Avenue	62,000	2009
4	Mill Plain Blvd.	136th Avenue	62,000	2012
5	State Route 500	NE 42nd Avenue	58,000	2009
6	Padden Parkway	State Route 503	57,000	2012
7	NE 78th Street	Highway 99	54,000	2012
8	Fourth Plain Blvd.	Andresen Road	53,000	2012
9	Padden Parkway	Andresen Road	53,000	2012
10	Mill Plain Blvd.	NE 120th Avenue	51,000	2011
11	Mill Plain Blvd.	SE 164th Ave.	51,000	2013
12	NE 134th Street	NE 20th Ave./Hwy. 99	51,000	2014
13	Mill Plain Blvd.	NE 123rd/124th Avenue	48,000	2011
14	State Route 502	State Route 503	47,000	2012

Source: RTC's Regional Traffic Count Program

Regional Travel Forecasting Model: Forecasting Future Travel Demand and Transportation Needs

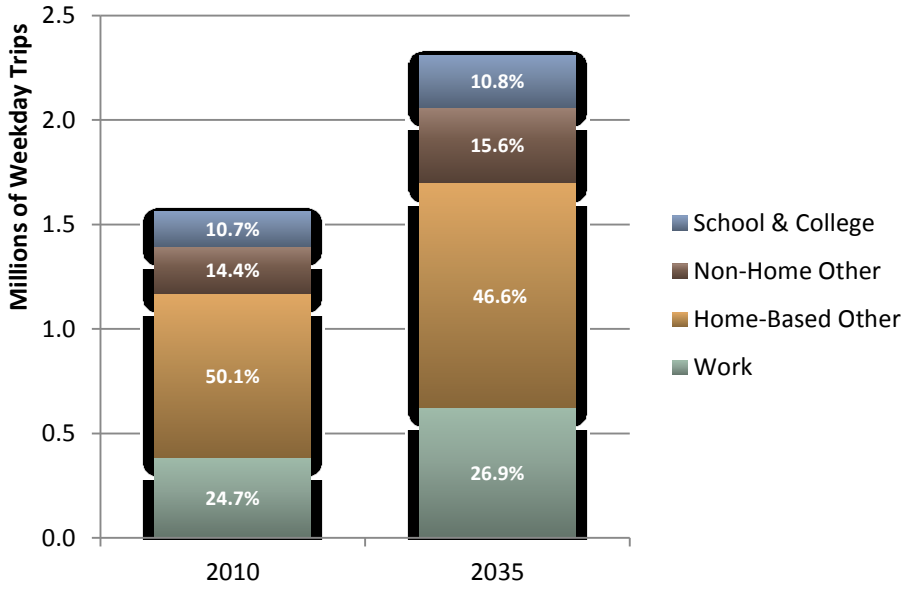
The Regional Travel Forecasting Model for the Clark County region is used as a tool to analyze existing and future transportation system performance. It is specifically used to forecast future traffic volumes on the regional transportation system. The regional travel forecast model uses demographic data as a basis for travel forecasts with the basis for the 2035 travel demand forecast model being the underlying forecast 2035 land uses. The travel model process involves trip generation, trip distribution, mode split and trip assignment to the regional transportation system.

In the modeling process, a base year of 2010 was used with forecasting to the year 2035. As described in Chapter 2, the RTP update must be based on adopted land use plans of local jurisdictions. 2035 land uses are based on the adopted Comprehensive Growth Management Plan for Clark County (Clark County, September 2007) which has a horizon year of 2024, extended out to the RTP's 2035 horizon. Appendix A details the transportation analysis used to determine future transportation projects. That analysis used land uses based on the Preferred Alternative selected by the Board of County Councilors on February 23,2016. Prior to adoption of the Comprehensive Growth Management Plans, alternative land use scenarios, and their effect on regional transportation needs, are tested and measured as part of the Growth Management planning process. The 2035 land use allocation to 665 Clark County Transportation Analysis Zones (TAZ's) was developed by local jurisdictions and RTC's partner agencies using their adopted comprehensive land use plans, as well as current zoning, as the basis for forecasting the future location of population, housing and employment within Clark County. Household and employment data allocated to the TAZs are the input to the regional travel forecast model. After trip generation, trip distribution, mode split and trip assignment onto the assumed regional transportation network, output from the regional travel forecast model is used as a tool to identify specific transportation system needs and future transportation solutions.

From 2010 to 2035 there is forecast to be a 48% increase in all-day person trips from around 1.56 million trips per day in 2010 to over 2.31 million trips in 2035. Trips can be classified according to place of trip production and purpose of trip. The regional travel forecasting model for Clark County categorizes trips into several categories including Home-Based Work, Home-Based Shopping, Home-Based Other, Home-Based Recreation, Non-Home-Based Work, Non-Home-Based Other, and School and College trips. Figure 3-9 summarizes this information to show the proportion of trips in four categories for average weekday Clark County-produced person trips.

Figure 5.2 shows that in the 2010 base year the largest proportion of trips during a 24-hour period are home-based-other trips (50%). This category can include trips from home to the grocery store, home to childcare, home to leisure activities etc. The second highest category is home-based and non-home-based work trips (25%). Non-home-based-other trips make up 14% of the trips. This category can include such trips as shopping mall to restaurant trips. The home-based categories include trips originating at home and going to a destination as well as the return trip to home. School and college trips make up 11% of trips made on a daily basis. The proportions for the year 2035 are forecast to be 47% home-based-other trips, 27% home-based and non-home-based work trips, 16% non-home-based-other trips, and 11% school/college trips.

Figure 5.2: Average Weekday Person Trips by Trip Purpose for Clark County

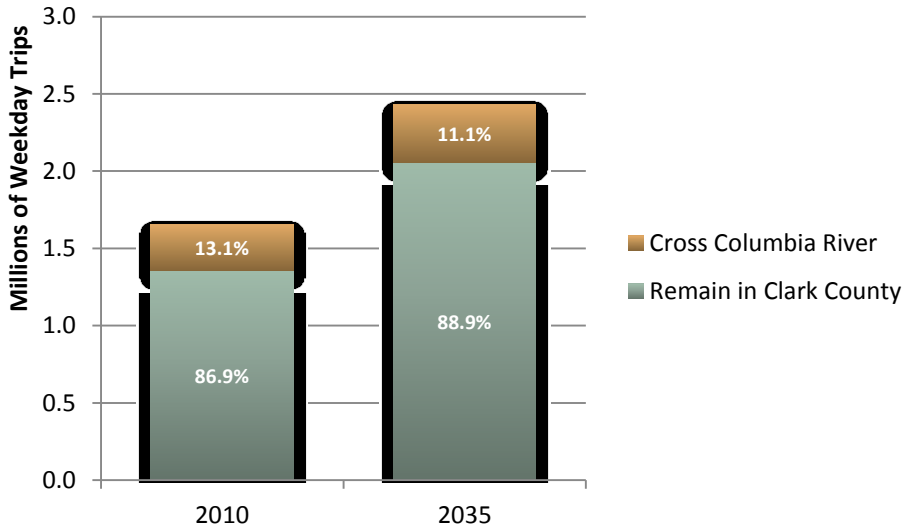


Source: RTC Regional Travel Forecast Model

Trips can also be categorized according to where the trips begin and end. Figure 5.3 shows the proportions of trips that use the Clark County highway system; trips that remain in Clark County (87% of trips in 2010, 89% in 2035) and trips that cross the Columbia River (13% in 2010, 11% in 2035).

The Regional Travel Forecasting Model for the Clark County region is used as a tool to analyze existing and future transportation system performance.

Figure 5.3: Distribution of Average Weekday Person Trips for Clark County



Source: RTC Regional Travel Forecast Model

Needs analysis was then carried out to determine what impact the forecast growth in travel demand might have on the transportation system. In carrying out analysis of existing and future transportation needs, the regional travel forecasting model was used to run the following three scenarios:

Base-Year

2010 traffic volumes on 2035 highway network.

Committed System

Forecast 2035 traffic volumes on "committed" highway network. The "committed" network has improvement projects for which funds are already committed in the Transportation Improvement Program (TIP).

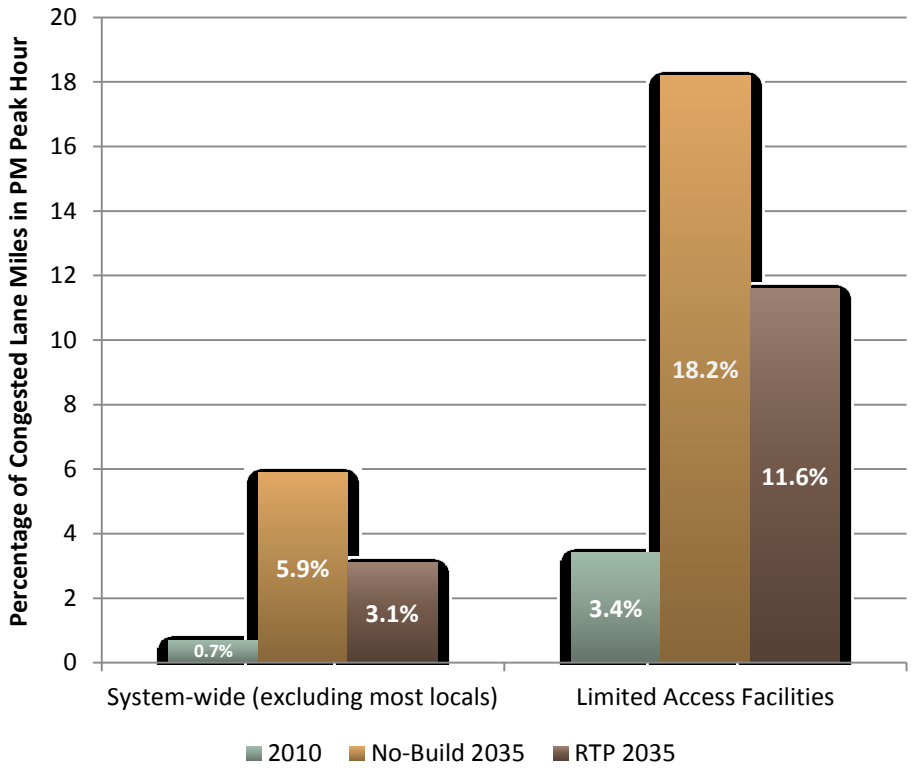
RTP, Year 2035

Forecast 2035 traffic volumes on 2035 highway network with RTP improvements are listed in Appendix B of the 2014 RTP. RTP improvements are projects for which funds are already programmed and committed in the current Transportation Improvement Program, together with projects for which there is an identified regional need, regional support, and a reasonable expectation that funds will be available within the twenty-plus year horizon to construct and/or implement them.

Regional Travel Forecasting Model Analysis

Analysis of the Regional Travel Forecasting Model can yield data for forecast speed on a transportation facility, vehicle miles traveled, lane miles of congestion and vehicle hours of delay. RTC staff uses forecast model data to inform the project identification process. Figures 5.4 shows some of the forecast results.

Figure 5.4: Percentage of Congested Lane Miles Within Clark County During the PM Peak Hour



Source: RTC Regional Travel Forecast Model

In summary, between 2013 and 2035, the region's population is forecast to grow by 29% and the region's employment is forecast to grow by 75%. The regional travel forecast model, using a base year of 2010, projects a resulting increase in trips per day of 48% with a 5.5% increase in regional transportation system highway lane miles and an 18% increase in fixed-route transit service hours.

~~Location~~	~~1985 Volumes~~	~~Current Volumes~~	~~Year of Current Volumes~~	~~% Increase~~	~~Annual % Increase~~
~~I-5 Bridge~~	~~92,301~~	~~132,603~~	~~2005~~	~~44%~~	~~2.1%~~
~~I-5, South of SR-500~~	~~54,400~~	~~127,000~~	~~2005~~	~~133%~~	~~6.7%~~
~~I-5, South of NE 78th St~~	~~52,784~~	~~98,060~~	~~2004~~	~~86%~~	~~4.5%~~
~~I-5, South of Woodland~~	~~33,748~~	~~63,542~~	~~2004~~	~~88%~~	~~4.6%~~
~~I-205 Bridge~~	~~52,568~~	~~145,927~~	~~2005~~	~~176%~~	~~8.8%~~
~~I-205, South of SR-500~~	~~40,440~~	~~115,025~~	~~2004~~	~~184%~~	~~9.7%~~
~~78th St, West of Hwy 99~~	~~23,646~~	~~33,067~~	~~2006~~	~~40%~~	~~1.8%~~
~~164th Ave, South of SE 34th St~~	~~7,052~~	~~40,675~~	~~2006~~	~~477%~~	~~22.7%~~
~~Fourth Plain, West of NE Andresen~~	~~16,060~~	~~21,743~~	~~2006~~	~~35%~~	~~1.6%~~
~~Hwy 99, South of NE 99th St~~	~~19,653~~	~~17,360~~	~~2006~~	~~-12%~~	~~-0.5%~~
~~Mill Plain, East of NE Andresen~~	~~21,021~~	~~26,604~~	~~2004~~	~~27%~~	~~1.3%~~
~~Mill Plain, East of NE Chkalov~~	~~18,220~~	~~40,679~~	~~2006~~	~~123%~~	~~5.8%~~
~~SR-14, West of SE 164th Ave~~	~~22,600~~	~~82,794~~	~~2004~~	~~266%~~	~~14.0%~~
~~SR-14, West of NW 6th Ave~~	~~17,600~~	~~40,298~~	~~2006~~	~~129%~~	~~6.1%~~
~~SR-500, West of NE Andresen~~	~~20,054~~	~~53,608~~	~~2006~~	~~167%~~	~~7.9%~~
~~SR-500, West of 137th Ave~~	~~14,671~~	~~29,570~~	~~2005~~	~~102%~~	~~5.0%~~
~~SR-503, South of NE 76th St~~	~~17,460~~	~~36,853~~	~~2006~~	~~111%~~	~~5.2%~~
~~SR-503, South of SR-502~~	~~7,360~~	~~22,506~~	~~2005~~	~~206%~~	~~10.2%~~

2. Level of Service

Level-of-service standards represent the minimum performance level desired for transportation facilities and services within the region. They are used as a gauge for evaluating the quality of service on the transportation system. The GMA states that "level-of-service standards shall be established for all arterials and transit routes to serve as a gauge to judge the performance of the system." The GMA directs that these standards should be established locally and coordinated regionally for local arterials and for highways of regional significance. The standards are used to identify deficient facilities and services in the existing transportation system. Highways of statewide significance (RCW 47.06.140) have a level-of-service set by the state.

LOS Definitions

Level-of-service standards can be based on performance along a segment of a roadway or at an intersection. The Highway Capacity Manual includes different level of service definitions and descriptions of operating characteristics for freeways, highways, urban streets and signalized intersections, because driver expectations and the measures of effective performance are different for each type of facility.

For freeways and highways, LOS is described in terms of the relationship of actual travel speeds to free flow speeds, the freedom to maneuver within the traffic stream and the effects of minor incidents or breakdowns on the traffic stream. The descriptions of each level of service for highways are listed below for illustrative purposes.

Level-of-Service A: describes completely free flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.

Level-of-Service B: also indicates free flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.

Level-of-Service C: the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. On multilane highways with a free flow speed above 50 miles per hour, the travel speeds reduce somewhat. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant traffic disruption.

Level-of-Service D: the ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.

Level-of-Service E: represents operations at or near capacity, an unstable level. The densities vary, depending on the FFS. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F. For the majority of multilane highways with free flow speeds between 45 and 60 miles per hour, passenger-car mean speeds at capacity range from 42 to 55 miles per hour, but are highly variable and unpredictable.

Level-of-Service F: represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds

the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods followed by stoppages. Travel speeds within queues are generally less than 30 miles per hour.

For reference purposes, ~~The~~ table 5.5 on the following page shows Level of Service definitions for urban arterials and signalized intersections as defined by the current Highway Capacity Manual ~~2000 edition~~. ~~Clark County does not use this level of service definition, table 5.5 is shown here for reference.~~

Table 5.5 Level of Service Definitions (HCM)

Level of Service						
Classification	A	B	C	D	E	F
Type I Urban Arterials Roadway Segment: Avg. Travel Speed (mph)	>42	>34 - 42	>27 - 34	≥21 - 27	≥16 - 21	< 16
Type II Urban Arterials Roadway Segment: Avg. Travel Speed (mph)	≥35	≥28 - 35	≥22 - 28	≥17 - 22	≥13 - 17	< 13
Signalized Intersections Delay per Vehicle (seconds)	≤10	> 10 - 20	> 20 - 35	> 35 - 55	> 55 - 80	> 80
Unsignalized Intersections Delay per Vehicle (seconds)	0 -10	> 10 - 15	> 15 - 25	> 25 - 35	> 35 - 50	> 50

Source: Highway Capacity Manual, Transportation Research Board

Clark County Level-of-Service Standards

Clark County level-of-service standards are applied at both the corridor and intersection level of analysis. The concurrency ordinance identifies level of service of a segment or intersection of any county roadway with a comprehensive plan functional classification of arterial or collector or any state highway of regional significance. Level-of-service standards on these corridors are defined in the concurrency ordinance in terms of volume to capacity ratio for each segment during the peak period traffic conditions.

~~In addition, intersections are subject to level of service standards similar to those in Table 5.5.~~ Individual movements at signalized intersections of regional significance in unincorporated county shall not exceed an average of two (2) cycle lengths or two hundred forty (240) seconds of delay (whichever is less). All unsignalized intersections of regional significance in the unincorporated county shall achieve LOS E standards or better (if warrants are not met). If warrants are met, unsignalized intersections of regional significance shall achieve LOS D standard~~s~~ or better. The signalization of unsignalized intersections shall be at the discretion of the Public Works director and shall not obligate the County to meet this LOS standard. However, proposed developments shall not be required to mitigate their impacts in order to obtain concurrency unless specified criteria meet requirements of the ordinance.

The level-of-service on highways of statewide significance (HSS) has been set by the Washington State Department of Transportation at LOS C for rural facilities and D for urban facilities in Clark County. Levels-of-service for Highways of Regional Significance have been set by RTC at LOS C for or better on non-HSS rural facilities and LOS E or better for non-HSS urban state facilities in Clark County.

The GMA requires that each jurisdiction demonstrate that they can pay for proposed improvement projects from reasonably available funding sources. Deficient roadways are defined as those links or

intersections that exceed the adopted LOS standard. Therefore, the adopted LOS standard will determine the current and future improvements projects in the transportation plan. The roadway LOS standard must reflect a reasonable balance between the amount of improvements the county and its cities can afford and the amount of congestion the public can tolerate. The capital facilities plan is comprised of projects necessary to maintain the defined standards through 20-years of growth.

Level-of-service standards for transit are also required as part of the GMA planning process. The recommended LOS indicators for transit service are shown in Table 5.6. These indicators were approved in 2013 as C-TRAN service standards.

Table 5.6 C-TRAN LOS Indicators

Planning IndicatorsLANNING INDICATORS							SupportingUPPORTING FactorsACTORS	
SERVICE CLASSIFICATION	**PASSENGERS PER REVENUE HOUR TARGET**	**PEAK/ NON-PEAK HEADWAYS**	**BUS STOP SPACING**	**ACCESSIBILITY (within service boundary)**	**MAXIMUM LOAD FACTOR (of seating capacity)**	**SERVICE SPAN (hours/day, days/week)**	**DENSITY**	**SUPPORTING FACTORS**
COMMUTER EXPRESS SERVICE	27	10–15 minutes, peak only	Park & ride locations	Within 5 miles of 80% of population and employment	100%	M–F, peak only	High density employment district as destination	Near full cost recovery, parking mgmt, sufficient park & ride spaces/ transit connections
LOCAL URBAN AND LIMITED SERVICE	22-28	15-30 minutes, peak; 30-60 minutes non-peak	1/8 – 1/4 mile	Within 1/3 mile of 60% of population and 70% of employment within service area	125%	7 days, up to 19-hour span of service	8–15 residential dwelling units per acre, 80 or more employees per acre	Land use/zoning and development that supports transit use; trip generators/ destinations along corridor; pedestrian and bicycle facilities
INNOVATIVE TRANSIT SERVICE	6	Varies by area	Designated locations	Accessible to all households within Connector service area	100%	M–F, limited hour span of service	Lower density areas not supportive of fixed route	Pedestrian and bicycle facilities; connection to fixed route network
PARATRANSIT	3	N/A	N/A	Vancouver UGA and 3/4 mile of fixed route service outside the Vancouver UGA	100%	7 days, up to 19-hour span of service	N/A	Clear eligibility criteria for service; coordination with human services transportation providers; travel training
VANPOOL	5-12	N/A	N/A	Service available for	100%	Based on individual	N/A	Parking mgmt.;

					commute trips that begin or end in Clark County		needs		employer subsidies/tax credits; CTR program

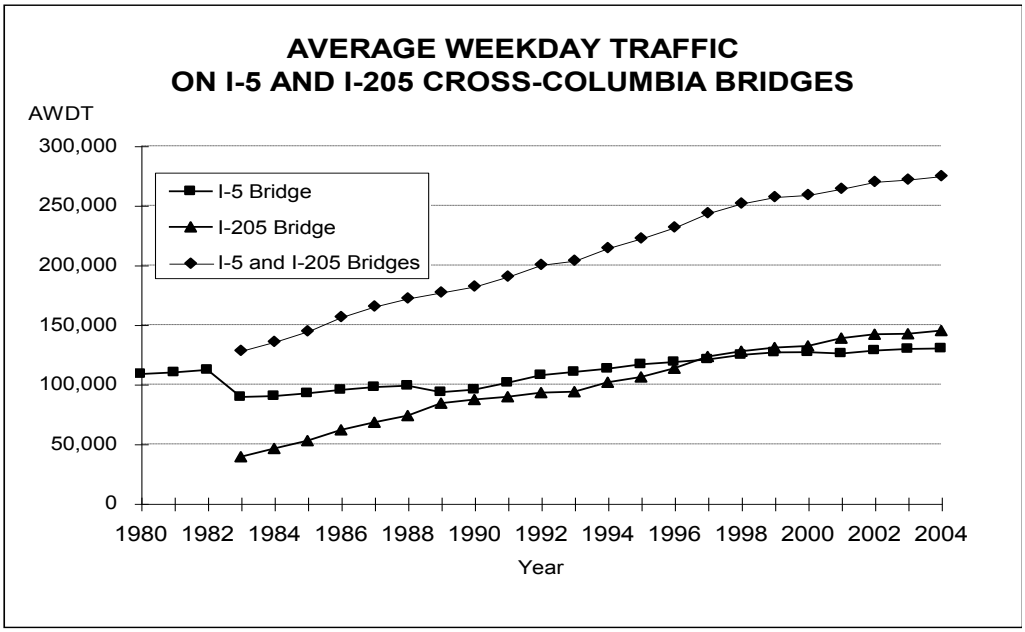
Source: C-TRAN

~~Source: RTC, Metropolitan Transportation Plan, 2005~~

~~The highest daily traffic ever recorded on the I-5 Interstate Bridge was on Friday July 2, 2004 when 157,301 bridge crossings were made. The highest evening peak hour traffic ever recorded on the I-5 Bridge was on Tuesday May 28, 1996 when 10,838 bridge crossing were made; of these 5,520 were northbound and 5,318 were southbound. For the northbound direction, the highest evening peak hour traffic was recorded on Thursday June 11, 1998 when 5,987 bridge crossings were made. For the southbound direction, the highest morning peak hour traffic was recorded on Wednesday March 31, 2004 when 6,119 bridge crossings were made.~~

~~The highest number of daily crossings ever recorded for the I-205 Glenn Jackson Bridge occurred on Friday July 16, 2004 with 168,491 crossings. The highest evening peak hour traffic recorded on the I-205 Glenn Jackson Bridge was on Friday August 9, 2002 when 13,196 bridge crossings were made. The highest northbound evening peak hour traffic recorded on the Bridge were 8,426 crossings made on Wednesday Friday May 24, 1996. For the southbound direction, the highest morning peak hour traffic was recorded on Tuesday October 7, 2003 when 8,247 bridge crossings were made.~~

~~Table 5.4 I-5 and I-205 Average Weekday Bridge Crossings~~



~~Source: RTC, Metropolitan Transportation Plan, 2005~~

Existing Deficiencies

Southwest Washington Regional Transportation Council (RTC) is the federally designated Metropolitan Planning Organization (MPO) for the Clark County/Vancouver region. One of RTC's duties is conducting a continuing Congestion Management Process (CMP) as defined in federal regulation. The CMP serves as a systematic process that provides for safe and effective integrated

management and operation of the multimodal transportation system. RTC's CMP is collaboratively developed and implemented as an integral part of the metropolitan planning process. The CMP provides a wide range of transportation system data to help guide the investment of transportation funds toward addressing congestion.

The monitoring element of the CMP is designed as an informational tool to be used within the decision-making process. It is also intended to provide an understanding of the transportation system's operating conditions and deficiencies and to assess the impacts of improvement strategies.

The annual Congestion Monitoring Report provides a comprehensive set of data for monitoring the performance of the transportation system. The Congestion Monitoring Report provides profiles on the travel characteristics of the regional transportation corridors. The data is translated into tables and maps that help identify deficiencies.

~~Some roadways and intersections do not meet the adopted LOS standards described elsewhere in this element. Where those deficiencies exist on the county's system, the county is committed to eventually correcting them. Failing concurrency corridors have resulted in development moratoria until solutions are identified and funding is assured.~~

- ~~**Corridors**~~

~~The only deficient concurrency corridor in the County road system is the Salmon Creek corridor east of Interstate 5. There is a major interchange project planned in two phases to remedy this congested corridor. There is ongoing work to secure the final funding component, in part by increasing Traffic Impact Fees for areas that contribute significant traffic to this corridor. Other road segments in the regional system on which the PM peak hour volume is at or approaching the available roadway capacity (as identified in the 2005 Congestion Monitoring Report) include the following:~~

~~Table 5.5 Existing Congested Corridors~~

~~**Corridor**~~	~~**Segment**~~	~~**Identified Improvement**~~	~~**Estimated Completion**~~
~~112th Avenue~~	~~49th Street - SR-500~~	~~TIP: NE 49th St. Intersection Improvements~~	~~2007~~
~~Hazel Dell Ave.~~	~~63rd Street - 78th Street~~	~~Stripe for center turn lane~~	~~2007~~
~~138th Avenue~~	~~18th Street - 28th Street~~	~~TIP: Widen to 5 lanes~~	~~2007~~
~~72nd Avenue~~	~~St. Johns to NE 88th St.~~	~~TIP: Widen to 5 lanes~~	~~2007~~
~~SR-502~~	~~179th St. - 219th St.~~	~~TIP: 219th Street Interchange~~	~~2007~~
~~18th Street~~	~~137th Av. - 162nd Av.~~	~~MTP: 18th Street Corridor~~	~~5-10 Years~~
~~SR-14~~	~~6th Avenue - 32nd Street~~	~~MTP: Widen to 4 lanes with Interchanges~~	~~2010/10+~~

~~SR-500~~	~~54th Avenue - Andresen Rd.~~	~~MTP: Interchanges and Auxiliary Lanes~~	~~2012/10+ Years~~
~~I-205~~	~~Airport Way - SR-500~~	~~TIP: Mill Plain 28th St./MTP: Collector/Distributor System~~	~~2013/10+ Years~~
~~I-205~~	~~SR-500 - 83rd Street~~	~~MTP: Widen to 6 lanes~~	~~10-20 Years~~
~~SR-14~~	~~I-205 - 164th Avenue~~	~~MTP: Widen to 6 lanes~~	~~10-20 Years~~
~~SR-503~~	~~Fourth Plain - 99th St.~~	~~MTP: Intersection Improvements and Access Control~~	~~10-20 Years~~
~~Fourth Plain~~	~~SR-503 - 137th Av.~~	~~Strategic MTP: SR-503/Fourth Plain Under Study~~	~~20+ Years~~
~~I-5~~	~~Jantzen Beach - Main Street~~	~~Strategic MTP: Columbia River Crossing~~	~~20+ Years~~
~~Andresen Rd.~~	~~Fourth Plain - SR-500~~	~~None~~	~~-~~

~~**Source: RTC Congestion Monitoring Report, 2005**~~

- ~~Signalized Intersections~~

~~**Several key intersections experienced poor levels of service in 2005, particularly during the peak afternoon period when commute trips are joined by shopping, school, and other non-commute trips. There are several signalized intersections in Clark County that operate at or near failing levels of service (greater than 60 seconds average delay for through movements).**~~

- ~~**NE 134th St @ NE 20th Ave**~~
- ~~**Hwy 99 @ NE 117th St**~~
- ~~**Hwy 99 @ NE 78th St**~~
- ~~**St. Johns @ SR-500**~~
- ~~**Andresen Rd @ Padden Parkway**~~
- ~~**SR-503 @ Padden parkway**~~
- ~~**Fourth Plain @ NE 137th Ave**~~
- ~~**NE 112th Ave @NE 28th St**~~
- ~~**NE 164th Ave @ SE 34th St**~~

~~**Most of these intersections are included in the City of Vancouver or the county traffic impact fee (TIF) program which is designed to ensure that new development does not cause an intersection to exceed LOS standards or aggravate existing traffic problems.**~~

Travel Demand Forecasting

RTC ~~used~~ uses a computerized model to project future traffic volumes based on the proposed land use patterns. The study year for analysis of future conditions is ~~2024~~2035. Base conditions for the 2024 analysis scenarios consist of funded or committed transportation projects, ~~2024~~ 2035 population and employment forecasts. Details of the land use assumptions and the allocation of jobs and households are provided in Appendix A.

Travel demand has also grown as the number of registered passenger cars in Clark County has increased dramatically over the last three decades. Between 1990 and 2000, there was a 67.2 percent increase in both registered passenger cars and light trucks (which includes SUVs).

Future Deficiencies

~~Using capacity analysis and the adopted LOS standards, planning staff from RTC, WSDOT, and Clark County,identifi~~F~~f~~uture deficiencies in the ~~regional~~ transportation system are identified based on the Comprehensive Plan Preferred Alternative urban growth boundary map. The assumed transportation network included the existing network plus improvements identified in the Regional~~Metropolitan~~ Transportation Plan (RTP). The R~~M~~TP includes the transportation improvement programs of the various jurisdictions and projects for which there is an identified regional need, strong regional commitment, and probable funding available. Clark County's ~~The~~ 6-year Transportation Improvement Plan (TIP) identifies needed system improvements and is updated and adopted on an annual basis ~~(Appendix A)~~. Appendix A details transportation issues that are forecasted to exceed the level-of-service standards in the next 20 years. An extensive list of capital improvements has been included in the RTP (Appendix B: RTP Solutions, Projects, Strategies and Programs) to address the wide array of transportation needs for the Clark County region as expressed through the comprehensive planning efforts of its jurisdictions. The projects include roadway improvements, traffic signals, road widenings, overlays, intersection reconstruction, access ramps, bicycle lanes and sidewalks, school crossings, guard rails, culvert replacements, and storm drainage improvements. As reported in the December 2014 RTP, the regional transportation infrastructure needed to accommodate growth over the next 20 years will require an investment of over $1.8 billion (the approximate total cost of projects identified in the 2007 RTP was $1.4 billion).

~~**Table 5.6 Future LOS Deficiencies and Mitigation Measures**~~

~~**Corridor Segment**~~	~~**Proposed Mitigation**~~
~~**Highways of Statewide and Regional Significance**~~	
~~I-5, Columbia River to NE 99th St.~~	~~CRC EIS preferred alt. and modify LOS measure~~
~~I-205, Columbia River to SR-500~~	~~HCT preferred alternative and modify LOS measure~~

~~I-5, NE 219th to Ridgefield (or alternate route)~~	~~Add 219th west extension to CFP~~
~~SR 500, NE 162nd to 182nd Aves~~	~~Frontage improvements w/ development~~
~~SR 503, Fourth Plain to NE 119th St~~	~~Draft WA Transportation Plan tiered solutions~~
~~SR 503, NE 119th St to 269th St, N. of Battle Ground~~	~~Draft WA Transportation Plan tiered solutions~~
~~**Rural and Inter-urban Corridors**~~	
~~Ward Rd, SR 500 to UGA~~	~~Complete corridor improvements to Pr4-cb~~
~~Ward Rd /NE 182nd Ave, UGB to NE 159th St~~	~~Designate and construct as rural arterial~~
~~NE 72nd Ave, NE 119th to 219th St~~	~~Designate and construct as rural arterial~~
~~NW Timmen Rd / NW Spencer Rd / NW 11th Ave~~	~~Frontage improvements identified as mitigation in La Center DEIS~~
~~Daybreak Bridge / NE 259th St~~	~~Not a concurrency corridor; accept peak hour congestion~~
~~**Multimodal**~~	
~~Bike/pedestrian improvements particularly in FPIAs, around schools and in mixed use areas~~	~~Included in CFP projects and on-going programs~~
~~High Capacity Transit~~	~~To be determined by HCT study~~
~~Reduce peak hour home-to-work trips~~	~~Extended transit service to outlying employment centers; Commute Trip Reduction program~~
~~**Vancouver UGA**~~	
~~Burton Road, Andresen to 86th Ave~~	~~Constrained corridor; ITS proposed in City CFP~~
~~NE 18th St, I-205 to NE 138th Ave~~	~~Construct 5 lane arterial; in City CFP~~
~~Andresen/Padden/NE 88th Street area~~	~~Constrained corridor; over capacity even with build out and new interchange; identify and evaluate new corridor options in 50-Year Trans. Visioning Process~~
~~Mill Plain Blvd, I-205 to NE 136th Ave~~	~~Parallel street circulation improvements; in City CFP~~
~~NE 137th Ave, Fourth Plain to NE 99th St~~	~~Constrained corridor; not a concurrency corridor; accept peak hour congestion~~

~~Fourth Plain Blvd, SR503 to NE 137th Ave~~	~~Constrained corridor; ITS proposed in City CFP~~
~~162nd Avenue, SR 14 to Mill Plain~~	~~Constrained corridor; ITS proposed in City CFP~~
~~NE 162nd Avenue, Mill Plain to Ward~~	~~Constrained corridor; ITS proposed in City CFP~~
~~NW Lakeshore Ave, RR Bridge to NE 119th St~~	~~Not a concurrency corridor north of 78th St; accept some peak hour congestion; among~~
~~Salmon Creek Ave, NE 134th St to NE 50th Ave~~	~~Constrained corridor; make safety improvements as needed and evaluate new corridor options in 50-Year Transportation~~
~~NE 219th St. extension to NW 31st/Hillhurst~~	~~Evaluate benefit and add to CFP if warranted~~
~~Hazel Dell Ave, NE 63rd to 78th St.~~	~~Re-stripe to 3 lanes; intersection improvements with development~~
~~NE 50th Ave, Salmon Ck to NE 179th St~~	~~Add 119th to 179th segment to County CFP~~
~~NE 87th Ave, Mill Plain to Fourth Plain~~	~~City Transportation Plan includes parallel route improvements to 92nd and 97th corridors~~
~~Main St /Hwy 99, McLoughlin to NE 78th St~~	~~Expand Hwy 99 project to 78th St; Main St improvements and ITS project are in City CFP~~
~~NE 152nd Ave, Ward Rd to NE 99th St~~	~~Add to County CFP~~
~~NE 142nd Ave, NE 159th St. to 199th St~~	~~Add rural section to County CFP; urban section to be frontage improvements or City CFP project~~
~~SR 500 crossings at St. Johns, 54th Ave & Andresen~~	~~Arterial improvements and ITS projects are in City CFP that address all three corridors~~
~~Vancouver Plaza Dr & local routes near mall~~	~~Arterial improvements and ITS projects are in City CFP that address mall area. Vancouver~~
~~**Battle Ground UGA**~~	
~~NE 112nd Ave, NE 179th to 244th St~~	~~Identified in City TSP as a County project; add~~
~~Main St, SR 503 to Grace Ave~~	~~Constrained corridor; City TSP projects add capacity to several parallel routes~~
~~NE 199th St, NE 112th Ave to Parkway Ave~~	~~Intersection improvements included in City~~
~~**Ridgefield UGA**~~	
~~NE 239th St extension, NE 10th Ave to 29th~~	~~Frontage improvements w/ development~~
~~**La Center UGA**~~	
~~La Center Rd, I-5 to La Center,~~	~~City DEIS includes planning level estimates for widening and for a second bridge alternative~~
~~E 4th St, La Center Rd to Highland St~~	~~Continuous left turn lane identified in City DEIS; City preferred alternative would divert~~
~~**Camas**~~	
~~NE 13th St / Goodwin Rd~~	~~City should add project to their CFP~~

~~Source: Comprehensive Plan Update Final EIS, 2007~~

~~Transit~~

~~Clark County Transit Benefit Area known as C-TRAN, is a publicly funded transit system that serves the transportation needs of Clark County with connections to Portland, Oregon. C-TRAN's existing transit facilities fall into one of two general categories: current services, and capital facilities and resources. Current services are discussed below.~~

~~Fixed Route Services~~

~~As of January 2010, C-TRAN operated approximately 160 vehicles on a total of 29 routes including 18 local urban, four limited commuter and seven express commuter routes. Services hours are generally from 5:00 AM to 10:15 PM weekdays, 6:00 AM to 8:15 PM on Saturdays, and 6:00 AM to 6:00 PM on Sundays and holidays. Three of the highest ridership routes operate late night service until approximately 12:30 AM seven days a week. In addition to serving key destinations throughout its service area, C-TRAN connects directly to Tri-Met's downtown Portland transit mall and the MAX light rail system at the Delta Park/Vanport Station on I-5 and the Parkrose/Sumner Transit Center on I-205. These access points allow C-TRAN passengers to reach destinations in the Portland metropolitan area, including Portland International Airport. Over 6.4 million fixed route passenger trips were provided in 2009, with passengers traveling nearly 37 million miles. All C-TRAN routes meet Americans with Disabilities Act (ADA) accessibility requirements.~~

~~Other Transit Services~~

~~In addition to traditional fixed routes, C-TRAN also provides a variety of other transportation services to the community:~~

~~Connectors: C-TRAN operates 3 Connector zones providing equally accessible service via general purpose dial-a-ride and deviated fixed route service. The Connector operates in and to three of the smaller cities in the service area: Camas, La Center, Ridgefield.~~

~~Transit Centers and Park and Ride Facilities: C-TRAN operates three transit centers: 99th Street at Stockford Village, Fisher's Landing and Vancouver Mall in addition to 7 park-and-ride lots providing over 2,200 parking spaces with direct access to express commuter services and local routes. A 1995 analysis projected demand for 3,000 park-and- ride spaces in the I-5 corridor and 2,300 spaces in the I-205 corridor by the year 2015. In addition, the agency is working with local and state jurisdictions to relocate the Salmon Creek Park & Ride near NE 134th Street as future interchange improvements displace the existing 495-space facility.~~

~~Paratransit: C-TRAN's paratransit service, known as C-VAN, meets ADA requirements for complementary paratransit service. C-VAN provides wheelchair accessible, curb-to-curb services for elderly and disabled persons who cannot use fixed route services. C-VAN currently operates within the Vancouver urban growth area (UGA) and within 3/4 mile of fixed routes operating outside the Vancouver UGA.~~

~~**Planning: C-TRAN continues to partner with regional jurisdictions and agencies in order to respond to projected travel demand in an efficient and cost-effective manner. Additionally, C-TRAN participates as a partner agency in regional high capacity transit studies.**~~

~~Future Conditions~~

~~**The adoption of the 20 year transit development plan provides the framework on which to build public transportation for the future of Clark County. If funded by a public vote, the plan proposes to preserve existing levels and meet growing demand for service over the next two decades. System improvements outlined in the 20 year plan include new bus routes in east Vancouver; increased frequencies on many existing bus routes; meeting the growing demand of C-TRAN's paratransit service for people with disabilities (C-VAN); construction and operation of two new park and rides with increased commuter service to downtown Vancouver and Portland; construction of C-TRAN's first bus rapid transit line with service along Fourth Plain Boulevard; and funding the operations and maintenance cost of light rail in downtown Vancouver as part of the Columbia River Crossing Project. This plan will incorporate local jurisdictional standards with transit related improvements and is the first step in working toward the 50-year vision adopted by CTRAN's Board of Directors.**~~

~~**As part of the GMA implementation, a joint development review process has institutionalized C-TRAN's participation in the development review process for SEPA, land use, zoning, development permitting, and site plan review. The program applies to transportation corridors, major centers, secondary centers and other significant transportation linkages.**~~

Regional Programs and Projects

This section summarizes the range of transportation programs and transportation projects needed to meet the transportation needs of people and freight in the twenty-plus year future.

In developing a balanced regional transportation system it is not only capacity deficiencies that must be addressed but also preservation and maintenance of the existing regional transportation system, plans to make for a safer regional transportation system for mobility of people and freight. All transportation modes are to be addressed with transportation options and choices made available to our diverse community's residents and businesses.

Bicycle and Pedestrian System

The continuous development and growth of the non-motorized network in Clark County will reduce impacts to the environment (reduce greenhouse gases and vehicle demand), encourage enhanced community access, and promote healthy lifestyles and exercise. A countywide network of bicycle and pedestrian facilities is needed to allow bicycling and walking for people of all ages and incomes as a practical alternative to automobile travel in some cases. It will also make the broader community more accessible, enjoyable and safer.

Integrated within the public highway, street, and road system are non-motorized facilities, including bicycle and pedestrian facilities. The Cycling Vancouver & Clark County map includes separated multi-use paths such as the NE Padden Parkway, Burnt Bridge Creek, and SR-503 trails; designated on-street bicycle lanes on some state highways and county and city roads; designated routes on widened county road shoulders; and streets and roads with shared roadway use that do not include special markings or signs.

Clark County and other local jurisdictions have included bicycle and pedestrian elements in their comprehensive plans or other plans. In 2010, the Board of County Commissioners adopted the Bicycle and Pedestrian Master Plan. The Clark County Bicycle and Pedestrian Master Plan provides a vision and implementation strategy for how Clark County can improve conditions for bicycling and walking over the next twenty years. The Plan envisions an interconnected bicycle and pedestrian network that provides routes to city centers, schools, transit, parks and recreational facilities. Once achieved, this Plan will improve Clark County residents' health, enhance their quality of life, help improve and protect the County's natural resources, and be a source of pride to the community.

Transportation policies are an extremely important component of the bicycle and pedestrian plan. For example, roadway project policies can provide the support and direction to plan and build pedestrian and bicycle facilities because these facilities are more cost effective to incorporate the time of initial roadway construction. ~~It is more cost effective to incorporate the path at the time of initial construction if the roadway project policies provide the support and direction to plan and build facilities.~~ The County currently has a Bicycle and Pedestrian Advisory Committee to provide advice on bicycle and pedestrian facilities, mobility and safety issues.

In addition to the Clark County Bicycle and Pedestrian Master Plan, C-TRAN accommodates bikes on the bus. Bicycling and riding the bus also cuts down on pollution, traffic congestion, and driving costs. All C-TRAN buses are equipped with bike racks. You can start your trip with an invigorating ride to a C-TRAN bus stop or park and ride and place your bike on the easy-to-use bike rack on any C-TRAN bus. Bike lockers are also available at transit centers.

Transportation Demand Management~~RANSPORTATION DEMAND MANAGEMENT~~ (TDM)

TDM is a mandated requirement. It is about reducing auto trips, shortening some, eliminating others and making our transportation system more efficient. Clark County supports TDM as a strategy to maximize the efficiency of the existing transportation system. Transportation demand management strategies to reduce vehicle trips on the regional transportation system can include use of transit, carpooling, vanpooling, working of flexi-hours and/or compressed work week, and working from home with use of communications technology, known as telecommuting. There are numerous TDM strategies included in the 2014 RTP that can be put into place to increase transportation system efficiencies. Clark County strategies include Commute Trip Reduction, Parking, and Transportation System Management.

Commute Trip Reduction (CTR)

A Commute Trip Reduction (CTR) law was first passed by the state legislature in 1991 followed by an updated law, the CTR Efficiency Act (RCW 70.94.527), in 2006. The CTR Efficiency Act of 2006 modified the scope of the CTR program to ensure that CTR plans and employer goals are coordinated with transportation and growth plans and focus on urban growth areas with the most congested state highways. Under the CTR Efficiency Act, local jurisdictions were allowed to create Growth and Transportation Efficiency Centers (GTECs) to obtain funding and flexibility in implementing programs. The Act also expanded the role of WSDOT and Regional Transportation Planning Organizations (RTPOs) in CTR planning.

The overall statewide goals of the Commute Trip Reduction program are to: 1) improve transportation system efficiency; 2) conserve energy; and, 3) improve air quality. The program requires participation by the state's largest employers; those with over 100 employees arriving at work between 6 a.m. and 9 a.m. ~~year-round~~year-round and located in areas of Washington State most affected by traffic congestion.

In Clark County there are currently four CTR affected jurisdictions:

1. Vancouver
2. Camas
3. Washougal
4. Unincorporated Clark County (UGA)

In October 2007, the RTC Board approved CTR Plans for each of these four jurisdictions. Since then, status reports have been submitted to the CTR Board in 2008, 2009, 2010, and 2011 and in 2013 summary CTR Plan updates were submitted to address how the CTR program is being implemented by local jurisdictions and the region. The implementation process requires that local jurisdictions, Regional Transportation Planning Organizations (RTPOs), major employers, transit agencies, WSDOT, and the CTR Board work collaboratively. In 2015, local and regional CTR Plans were updated ~~and submitted~~and submitted to the CTR Board with a specific focus on setting the future Plan's CTR goals and targets.

In compliance with the Washington State Commute Trip Reduction Law, Clark County offers several elements in our Commute Trip Reduction (CTR) program:

- An on-site Employee Transportation Coordinator (ETC)
- Guaranteed/Emergency Ride Home
- Promotion of the Clark County Commute Trip Reduction website and online ride-matching service
- Promotion of CTR campaign events

The Clark County Commute Trip Reduction Website, www.ClarkCommute.org, is loaded with information on travel options for commuting to work. It offers a commute tracker tool that enables you to track your work commute and calculate your savings when you choose an alternative commute to work.

Transportation System Management

The term Transportation System Management (TSM) is applied to a wide range of transportation system improvements that tend to have low or no capital cost but address impediments to efficient operation of the transportation system. TSM measures can be applied on a spot or corridor basis. Clark County currently employs TSM measures to gain additional operational capacity on major arterial corridors. Active TSM measures in place include:

- corridor access management;
- channelization of traffic at intersections;
- traffic signal coordination; and,
- Intelligent Transportation System (ITS).

One of the most effective TSM measures is a program to address inappropriate land use access to arterial roadways. While new development is required to comply with the county transportation standards (CCC Chapter 40.350), existing land use on county arterials may have been permitted

inappropriate access to those arterial roadways. The most efficacious approach to corridor-level access management is to address access issues when arterial capacity is expanded.

Another TSM approach involves the identification of small capital improvements that can be demonstrated to add significantly to the capacity of an arterial. For example, at an intersection having a shared through and left-turn lane, the traffic signal must be timed to separate that approach from the approach facing it (to allow for free flow of the left-turning traffic). The necessity of splitting that phase of the traffic signal timing creates an inefficiency, which could be removed if a separate left-turn lane is constructed.

A third approach, which is most applicable to high-volume roadways (e.g., Interstates and parkway arterials), is to provide incident management services in a single or series of corridors to address traffic management during incidents (e.g., vehicle collisions, breakdowns) so that such incidents are cleared quickly. Washington State Department of Transportation has a program to provide incident management patrols for the higher-volume state highways (I-5, I-205, SR-14).

Clark County uses traffic signal coordination systems to improve the operational efficiency of the regional transportation system in the following corridors:

- NE 134th Street (Salmon Creek Avenue/ NE 134th St to NW 2nd Avenue) ~~I-205 NB off-ramp to approximately NW 11th Avenue)~~
- NE 139th St from NE 20th Avenue to Tenney Road
- NE 99th Street (NW 21st Avenue to NE 32nd Avenue) ~~NE Hazel Dell Avenue to Highway 99)~~
- NE 78th Street (NW 9th Avenue to NE 94th Avenue ~~St. Johns Road~~)
- Padden Parkway (NE Ward Road/NE 162nd intersection to NE 137th Avenue – part of WSDOT SR-500)
- NE Ward Road (NE 78th Street to NE 76th Street)
- NE Fourth Plain Road (NE 102nd Avenue to the shopping center entrance signal at approximately NE 114th Avenue)
- NE Highway 99 (several separate systems – NE 129th Street to NE 134th Street, NE 117th Street to NE 88th Street, NE 78th Street to NE Ross Road in the City of Vancouver)
- NE 20th Avenue (NE 134th Street to NE 139th Street)
- NE Andresen Road (NR 58th Street to NE 88th Street)

The unsignalized intersection LOS methodology is not used as a criterion to install signals. Underutilized intersections must meet legal signal warrants (volume, safety, and operating criteria) before a signal can be installed. Indiscriminate installation of traffic signals can actually increase accidents as well as add unnecessary expense.

Traffic signal coordination is part of a broader regionally coordinated Transportation System Management and Operations (TSMO)/Intelligent Transportation System (ITS) program called Vancouver Area Smart Trek (VAST). The VAST program was initiated in 1999 through a partnership of transportation agencies including the Southwest Washington Regional Transportation Council, Clark County, the cities of Vancouver and Camas, ODOT, WSDOT and C-TRAN to coordinate, plan and fund TSMO/ITS projects. ITS uses real time information to integrate and manage road traffic, transit, ramp meters, traffic signals and to manage incidents for more efficient performance. The components of the VAST Program include communications infrastructure, traveler information, incident management, transportation management, transit priority, transit operation and management. The VAST Implementation Plan is a twenty-year prioritized project list. The short term projects include interconnected and adaptive signal control, freeway cameras and roadway detection, variable

message signs, a traveler information system, and a traffic management center. A Clark County transportation data warehouse is established to provide the transportation data needed to monitor the TSMO improvements and system performance. As part of the operations program, RTC, Clark County and the VAST agencies have partnered with Portland State University and Portland area transportation agencies to maintain and improve the Portal Data hosted by the ITS Lab at PSU. It contains historical and real-time transportation data from agencies in the Vancouver Portland region in a single location. This transportation information warehouse can be used by researchers, planners, traffic engineers, and the public to look at transportation performance.

Congestion Management Process

As the federally designated MPO for the Vancouver/Clark County region, RTC is required by federal law to maintain a Congestion Management Process (CMP), which is a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies to alleviate congestion and enhance the mobility of persons and goods.

Quality of life and economic prosperity in the region depends on efficient mobility for both people and goods. There is recognition that strategic expansion of capacity is needed at key bottlenecks. Capacity expansion should take place after lower cost efforts have been made to improve the operations of existing facilities. The CMP is intended to identify and manage congestion using performance measures to direct funding towards strategies that most effectively address congestion. The CMP is implemented as part of the overall metropolitan planning process.

The Clark County region was designated as a Transportation Management Area under the federal Transportation Act, ISTEA, in 1991. The region is designated as a TMA because it has a population greater than 200,000. In addition to meeting all the specified metropolitan transportation planning process requirements, MPOs representing Transportation Management Areas must meet additional requirements. In TMAs, the MPO must have a Congestion Management Process as described above. The CMP provides for the effective management of new and existing facilities through the use of travel demand reduction and operational management strategies. In addition, in air-quality non-attainment TMAs, highway capacity expansion projects that result in a significant increase in single occupancy vehicles can only be programmed if consistent with the Congestion Management Process. The CMP serves as the process for identifying deficient regional travel corridors, for evaluating alternatives to address congestion, and for managing the performance of the system.

Preservation and Maintenance

Preservation and maintenance of the existing transportation system is a high priority. Preservation can prolong the life of transportation system elements and maintenance addresses the day-to-day activities needed to keep the transportation system in good working order. Clark County Public Works maintains approximately 2,665 lane miles in unincorporated Clark County. As Clark County's population continues to grow, the wear and tear on our roads also increases.

Summer Road Preservation Program

Starting in April of each year, Public Works begins annual road surface treatments. The county uses several different methods to preserve roads and to protect the public's investment in its transportation infrastructure. Road surface preservation treatments may include asphalt overlay, slurry seal, rubberized asphalt cape seal, chip seal, micro seal, full-depth reclamation, and/or full-depth reclamation.

Bridges

With the many rivers and streams in the region, bridge crossings are a vital part of the transportation infrastructure. Bridges on the Clark County highway system include: I-5 bridge crossings of the Columbia River, Salmon Creek, NE 129th Street, NE 134th Street, East Fork Lewis River and North Fork of the Lewis River; SR-14 crossings at West Camas Slough and Lawton Creek; SR-501 crossing of the rail lines in Vancouver, SR-503 crossings of Cedar Creek, Salmon Creek, Chelatchie Creek and the Lewis River at Yale; the La Center Bridge and Heisson Bridge. Bridge needs can include deck preservation, steel bridge painting, seismic retrofits, movable bridge repair, and scour protection. The I-5 bridge crossing the East Fork of the Lewis River is currently on the list of structurally-deficient bridges. This bridge has a weight restriction that affects heavy trucks. Clark County maintains a list of bridges with height and weight restrictions in the County and publishes these in the County's Bridge Report.

Transit

Every year, state law requires the 32 public transit agencies statewide to produce six-year Transit Development Plans (TDP). C-TRAN is Clark County's public transit agency. The 2015-2020 TDP reviewed 2014 operating performance and facilities development. It highlights six-year initiatives and activities that include State of Good Repair, Mobility, Safety, Economic Vitality, Environmental Quality and Health, and Service Equity. Washington State Transportation Plan 2035 cites C-TRAN preservation and maintenance costs over a 24-year period are expected to total $2.24 billion.

High Capacity Transit (HCT)

~~Prior to adoption of C-TRAN 2030 (C-TRAN, June 2010), the RTC Board adopted the Clark County High Capacity Transit System Study in December 2008 following a two-year planning process. The HCT Plan provides a blueprint for C-TRAN and the Clark County region to move High Capacity Transit improvements forward in identified HCT corridors. The HCT System Study is based on the assumption that traffic volumes will increase over time as planned growth and economic development continue in the Clark County region. The constrained ability to expand highway capacity in a number of key regional transportation corridors is expected to cause traffic congestion to worsen thus increasing the need to develop a transportation alternative. The first regional HCT improvement is Bus Rapid Transit (BRT) beginning operation in 2016 that will create a Fourth Plain Corridor Hybrid BRT between downtown Vancouver and Vancouver Mall at beg.~~

~~Washington State Rail Plan 2013-2035 shows two projects completed by 2025 in Clark County. 1). Columbia River Bridge in Clark County. WSDOT's Long Range Plan for Amtrak Cascades from Rail milepost 9.61 to 10.14. The Portland - Spokane route junction at the north end of the Columbia River Bridge has a 10 mph speed restriction. Construction of an additional bridge and modification of the existing bridge would provide better movement of traffic and reduce the effect of bridge openings on rail traffic. 2). Felida to MP 114 Third Man Track. This project is from rail milepost 130.45 to 112.2. It includes a new eighteen mile long 110 mph main line will be build adjacent to the existing double track.~~ Prior to adoption of C-TRAN 2030 (C-TRAN, June 2010), the RTC Board adopted the Clark County High Capacity Transit System Study in December 2008 following a two-year planning process. The HCT Plan provides a blueprint for C-TRAN and the Clark County region to move High Capacity Transit improvements forward in identified HCT corridors. The HCT System Study is based on the assumption that traffic volumes will increase over time as planned growth and economic development continue in the Clark County region. The constrained ability to expand highway capacity in a number of key regional transportation corridors is expected to cause traffic congestion to worsen thus increasing the need to develop a transportation alternative. The first regional HCT

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~~Background~~

~~High capacity transit is a term used to describe many types of transit that move large numbers of people quickly and efficiently. High capacity transit includes heavy rail rapid transit, bus rapid transit, streetcars, light rail, monorail, commuter rail, and other types of transit. In Clark County, high capacity transit would help create a network of transit options that let residents travel easily throughout the county while avoiding crowded roads and highways.~~

> **~~Heavy rail rapid transit:~~** ~~Heavy rail transit systems typically have complete separation from surrounding roadways and land uses except at stations. These systems tend to have higher speeds and higher capacity compared to other transit systems and are typically electrically operated with completely separated trackway, such as subways or elevated trains. Examples of heavy rail rapid transit include: BART in the San Francisco Bay Area, the New York Subway System, and the Washington D.C. Metro.~~
>
> **~~Bus rapid transit (BRT):~~** ~~Bus rapid transit can include a range of bus improvements from providing bus priority at traffic signals, exclusive bus lanes on arterials such as Fourth Plain or Highway 99 to providing a completely separated roadway for buses on the Interstate system. BRT systems are relatively common in Europe and are beginning to be developed in the U.S. Examples of BRT include EMX in Eugene, OR, Seattle METRO (pictured), and numerous systems in Europe.~~
>
> **~~Light rail transit:~~** ~~Light rail systems are electrically powered urban rail systems that operate with separated trackway similar to heavy rail, but can also operate in mixed traffic operation in city streets. Because they include some portions of mixed traffic operation, light rail is typically~~

~~slower with lower capacity than heavy rail. Examples of light rail systems include Portland's MAX system (pictured), Tacoma's LINK system, and the San Diego Trolley.~~

~~**Streetcar:** Streetcars typically operate as single cars on tracks embedded in city streets. Auto traffic usually shares a lane with streetcar operations and the operation is subject to vehicle congestion on the roadway. Some streetcar systems have been in operation since early in the 20th century while some cities are building modern streetcar systems with new vehicles. Examples of streetcars include the Portland Streetcar, Seattle's Eastlake Streetcar, Toronto Streetcars (pictured) and the San Francisco MUNI trains.~~

~~**Monorail:** A monorail is a rail transit system in which a car moves on a single rail line. Monorail systems are typically elevated above surrounding roadways and land uses. Examples of monorail transit are found in several cities in Japan. U.S. examples include the Seattle Center Monorail (pictured), and the Las Vegas Monorail. Discussions are underway to expand the Seattle Center Monorail to outlying areas including the University of Washington.~~

~~**Trams:** Sometimes called a cable car or ropeway, an arrangement of overhead cables suspended from towers and supports traveling buckets used for transporting people, usually over rough terrain. Examples of trams are found in several sites throughout Europe. U.S. example includes the Portland Aerial Tram in Portland, Oregon. It connects the city's South Waterfront area with Oregon Health and Science University (OHSU) and the Marquam Hill neighborhood surrounding the university.~~

~~**Commuter rail:** Commuter rail is rail transit service that uses an existing rail line to connect outer areas with a downtown area or other major attractor. Compared to other urban rail systems, commuter rail serves longer distance trips and stations are relatively far apart (5+ miles between stations). Examples of commuter rail systems include the Seattle-Tacoma Sounder service, the Long Island Railway (pictured), and Chicago's Metro system.~~

~~**History of HCT in Clark County**~~

~~The Clark County High Capacity Transit System Study was initiated in late 2006 to develop a plan for HCT to serve Clark County. HCT is service that can improve reliability and carry more people at higher speeds than a standard bus line. Transit passenger capacity can be expanded through increasing the number of vehicles, vehicle size, frequency, travel speed or a combination of these elements.~~

~~The potential to extend a high-capacity transit system from Portland into Clark County has been evaluated several times over the last 15 years. The reason for initiating this HCT system planning process was to examine the potential for HCT within and across all of Clark County. The study was also timely in determining how a Clark County HCT system could connect to the Columbia River Crossing Project. The Columbia River Crossing Project's Locally Preferred Alternative identified light rail to Clark College as the preferred method to connect downtown Vancouver to the Portland MAX system. The Clark County HCT System Study builds from this bi-state connection and addresses HCT connections to the Columbia River Crossing Project, within Clark County and the bi-state connection in the I-205 corridor.~~

~~The study team identified nine potential HCT modes to be considered. The modes were evaluated based on how well they met the study purpose and goals, whether they were proven technologies, their economic development potential, their cost and their land use compatibility. Based on the initial assessment, four modes – heavy rail, monorail, personal rapid transit and water (river) transit – were eliminated as not being viable to consider for Clark County. The remaining five potentially viable HCT modes included:~~

- ~~BRT Lite (bus rapid transit in mixed traffic)~~
- ~~BRT Full (bus rapid transit in exclusive guideway)~~
- ~~Streetcar~~
- ~~Light Rail~~
- ~~Commuter Rail~~

~~Fifteen travel corridors in Clark County were identified and an initial assessment was prepared measuring their suitability to function as HCT corridors. Based on this initial assessment, five corridors were selected by the Steering Committee as promising HCT corridors that merited more detailed analysis. The five corridors included I-5/Highway 99, SR-500/Fourth Plain, I-205, SR-14/Mill Plain, and Chelatchie Prairie.~~

~~One of the study's underlying findings is that while the design of a good HCT system is critical, it is not enough to ensure successful HCT project implementation. A well designed set of HCT facilities needs to be complimented by: 1) transit supportive land use strategies, 2) collaboration among public agencies, 3) commitment to the project at both political and staff levels, 4) continued public engagement and support, and 5) actions by public agencies to amend and implement HCT policies.~~

~~The history of Light Rail Transit (LRT) planning in the region includes study of high capacity transit options advanced in the South/North High Capacity Transit Corridor Study. A Tier I Recommendation Report, published by Metro, September 14, 1994, recommended that Light Rail Transit be developed in the I-5 corridor to Clark County with Phase I terminating in the vicinity of NE 99th Street and Phase II terminating in the vicinity of NE 134th Street. On July 19, 1994, Metro released the South North Transit Corridor Study, Draft Briefing Document, Tier I Technical Summary Report to support the South/North HCT Corridor study recommendations. In 1995 the Clark County voters voted no to funding LRT development. A Draft Environmental Impact Statement (DEIS) was prepared through a coordinated process led by Metro (Portland) with a northern terminus in the vicinity of Clark College.~~

~~The purpose of the DEIS was to identify and disclose anticipated impacts of a potential light rail line from the Clackamas Town Center area to Clark County compared to a "No build" alternative. Alternatives and options were described in detail in the South/North Corridor Project Draft Environmental Impact Statement (FTA/Metro, February 1998). FTA/Metro issued a South/North Corridor Project Supplemental Draft Environmental Impact Statement in April 1999 to address an LRT line along Interstate Avenue with a terminus at the Expo Center in Oregon. The Interstate MAX Yellow Line with terminus at Delta Park, opened in 2004. The I-5 Partnership recommended the development of an LRT Loop within Clark County to provide for internal Clark County trips as well as cross-river trips. Further analysis of transportation needs was carried out through the I-5 Columbia River Crossing Project. The CRC's Locally Preferred Alternative (June 2008) included extension of the LRT line to Clark County.~~

~~The adopted 2035 Washington Transportation Plan for C-Tran shows the 2015 Annual Funding Need at $13,701,236; in 2020, the need is $16,272,700, and from 2011-2020 the cumulative funding need is $139,542,631. C-Tran's sales tax rate is currently at .5%. C-Tran has implemented a 5% service reductions and intends to place a sales tax measure on the November 2011 ballot. A .2% increase is needed to maintain service levels. A 0.1% measure was also anticipated to address the operating and maintenance cost of a light rail line built as part of the Columbia River Crossing project.The Portland/Vancouver metropolitan region had the first interurban electric rail service in the nation. As early as 1889, electric streetcars began replacing horse-drawn, cable and steam-powered lines. The Vancouver Electric Line began regular service around downtown in 1908. By 1910, interurban railway services extended from Vancouver south to Eugene and Corvallis and from Estacada to Forest Grove~~

~~and McMinnville. In 1917, streetcar service opened over the new Interstate Bridge, which continued until 1940 when the tracks were paved over.~~

~~In more recent times, the increased roadway congestion and travel delay accompanying growth has prompted the study of new travel options between major centers that would support economic prosperity. Starting prior to the adoption of the 1994 Comprehensive Plan and continuing until shortly after its adoption, regional and local jurisdictions from Oregon and Clark County, participated in a high capacity transit study to determine what HCT systems would be needed to adequately address expected future travel demand in the Clark County-Portland region. The study also identified land use scenarios supportive of high capacity transit systems, and the potential for coordination of services within the Vancouver-Portland region. That study was entitled "South/North Corridor Study'. At the end of the Tier I, South/ North Alternatives Analysis Study, a light rail transit (LRT) system was identified as the high capacity transit mode of choice.~~

~~A joint environmental review was conducted of the preferred alternative for an LRT alignment that would serve the Clark College area near Downtown Vancouver as its minimum operating segment. Extensions of the line either along the SR-500 or the I-5 corridors were considered. The preferred alternative from that environmental analysis was packaged as a project and presented to the voters of the transit benefit district for consideration as an increase in the sales tax funding, in February 1995. That request for funding was defeated by the voters.~~

~~More recently, an examination of this issue of high capacity transit and high capacity transit mode selection (LRT, buses, commuter rail) was conducted by an official task force appointed jointly by the Governors of Washington (Gary Locke) and Oregon (then John Kitzhaber) and comprised of citizens, business representatives and elected officials. The Task Force was appointed to examine options for addressing trade and transportation issues in the bi-state I-5 corridor from the Rose Garden area of Portland to the I-5/I-205 confluence in the Salmon Creek area of Clark County.~~

~~This task force issued its recommendations for a strategic plan for this corridor in June 2002. In that list of recommendations was consideration of an LRT loop that would serve Clark County via the I-5, I-205 and either the Fourth Plain Boulevard or SR-500 corridors. For the most part, this proposed LRT loop is entirely within the existing city limits of Vancouver.~~

~~At the end of 2006, the Southwest Washington Regional Transportation Council (RTC) began working in partnership with local jurisdictions and agencies to take a fresh look at potential HCT modes and travel corridors within and through Clark County. Adopted in December 2008, RTC's High Capacity Transit System Study provides a framework for long-term investments in the region's transit system. The study identified Bus Rapid Transit as a recommended HCT mode along with four corridor recommendations for future HCT consideration including Highway 99, Fourth Plain, I-205 and Mill Plain. The study also outlined policy recommendations for land use and to guide the development of high capacity transit in Clark County.~~

~~C-TRAN's 20 year transit development plan adopted in June 2010, identified Fourth Plain Blvd. between downtown Vancouver and Vancouver Mall as the priority corridor for the system's first Bus Rapid Transit line.~~

~~High Speed Rail~~

~~In 1991, the Washington State Legislature directed that an assessment of high speed ground transportation be conducted due to the increasing congestion along major transportation corridors~~

~~serving intercity routes. High speed rail systems, using a variety of technologies, are in service in Japan, France, Germany and Sweden and appear well used. There are no high speed rail systems currently operating in the United States.~~

~~The study was not meant to focus on the technologies but rather on the economic, environmental, institutional and financial feasibility of implementation. Two major corridors were identified and analyzed: a north-south route serving Portland, Oregon through Seattle to Vancouver, BC, and an east-west route serving SeaTac through Moses Lake to Spokane. Preliminary findings indicated that as much as ten percent of all vehicular and air travel between Seattle and Portland might be captured by a high speed system. The study recommended implementing high speed rail in three stages:~~

- ~~incrementally construct and modify a system between Everett and Portland, Oregon with a 150 mph or greater top speed by the year 2020;~~
- ~~construct a system between Everett and Vancouver, BC; and,~~
- ~~construct a system between King County and Spokane.~~

~~If such a system were constructed, it would directly impact Clark County. Implementation of a true high speed rail system would require total separation from existing freight rail, elimination of at-grade crossings, acquiring new rights-of-way, and ensuring the potential for electrification of the system.~~

~~The adopted Washington Transportation Plan for 2007-2026 does not include a specific high speed rail investment component. The Plan identifies $2.9 billion in total statewide needs for intercity passenger rail, 65% of which is unfunded. WSDOT has also prepared a Draft Long Range Plan for the Amtrak Cascades service that identifies a step-by-step approach that links specific sets of construction projects to service improvements. In 2003, WSDOT and BNSF Railway Company reached agreement on a legal framework that will govern the construction of Amtrak Cascades capital projects within the Washington segment of the Pacific Northwest Rail Corridor. This twenty year agreement outlines how each of the individual projects will be constructed, what operational benefits they will produce and under what conditions cost will be shared. This is the only legal agreement of its kind between a railroad and state government. However, in~~

~~2010, Washington received $782 million to improve high speed intercity passenger rail service.~~

Freight

Clark County's local, regional, and state economy is highly dependent upon the efficient transport of goods to and from markets. Without investments to maintain and improve freight mobility in key highway and rail corridors and at intermodal freight connections (rail-road-water-air) the region's economy and its jobs' sustainability is at risk.

~~**Truck Movement**~~

~~**Truck freight movement is essential to the continued economic vitality of Clark County. In the Vancouver metro region, 57,861 jobs depend on the freight system: 27,950**~~

~~**in manufacturing, 6,476 wholesale/trade, 12,226 construction, 8,178 in the transportation/utilities sector and 3,031 in agriculture. The majority of freight moving in the Portland/Vancouver metro area - 64 percent - is carried by truck. The remainder moves by pipeline (10.8 percent), ocean (9.7 percent), rail (5.6 percent), barge (5.4 percent), intermodal (4.5 percent) and air (0.1 percent).**~~

Freight Issues

~~RTC completed study in September 1993 to identify regional freight transportation issues and to investigate data availability and needs regarding freight transportation. The results of the study are documented in *Southwest Washington Regional Freight Transportation Study, Final Report* (December, 1993; RTC/JHK & Associates). The Study noted the shortage of data relating to freight transportation. The report also noted the need for improved access to the Port of Vancouver via the Mill Plain Extension. The Mill Plain Extension project was subsequently completed in 2000.~~

RTC initiated the Clark County Freight Mobility Study in 2009 to provide an understanding of the key elements of freight movement and to explain why freight and goods movement is important to Clark County's economy and employment. The study inventoried existing freight and goods movement, and identified current deficiencies and future action items to be addressed as part of ongoing regional and local planning processes. The study began to identify corridor investment needs in order to sustain jobs and economic development for existing and future industrial and employment centers. The study was conducted to supplement the Clark County RTP.

The key issues for truckers are congestion, travel-time reliability, and a need for additional capacity. Key issues for rail are congestion, port access, and mainline capacity limitations. All three ports in Clark County are expanding their portfolios of commercial/industrial lands. Private developers are also positioning their properties for the economic upturn. Improvements in truck and rail access are required to make these efforts successful, particularly improved freeway access. Barge operators need improvements in the Columbia River navigation channel and will also benefit from road and highway improvements.

~~Thirty-seven percent of Vancouver/Portland metro trucking firms said that on-time delivery is their single most important performance requirement, 30 percent said cost per move, and 17 percent predictable travel time. As an example of the need for reliable on-time delivery, during the peak summer season the Vancouver Frito-Lay plant receives up to 50 truckloads of fresh potatoes each week from growers in the Columbia Basin. Potatoes begin to lose quality after just eight hours at room temperature, and the plant keeps just enough potatoes on hand for one eight-hour shift. If the potatoes don't arrive on time, the plant can't run. Corn and oil also come by rail from the Midwest, while packaging and seasoning is trucked in from the southeastern U.S. Frito-Lay products are sent to Central Puget Sound in trucks that must leave the plant between 2:00 and 4:00 am to avoid congestion on I-5 and arrive at distributors on time.~~

State Initiatives

The WSDOT-developed Intermodal Management System (IMS) provides input on regional intermodal needs. The community has noted a concern about the transportation of hazardous materials on the transportation system.

WSDOT first adopted a Statewide Freight and Goods Transportation System (FGTS) in 1995 that categorizes highways and local roads according to the tonnage of freight they carry. The FGTS is updated periodically with the most recent 2015 update published in March 2016. Washington State also created the Freight Mobility Strategic Investment Board (FMSIB) with a mission to create a comprehensive and coordinated state program to facilitate freight movement between and among local, national and international markets in order to enhance trade opportunities. The Board is also charged with finding solutions that lessen the impact of the movement of freight on local communities. The Board proposes policies, projects, corridors and funding to the legislature to promote strategic investments in a statewide freight mobility transportation system.

Truck Routes

Clark County has designated all roadways classified as arterials or above and located within urban areas as truck routes. In rural areas, the county has designated all of its collector facilities and above as truck routes. The county has placed restrictions on selected sections of the county system where pavement conditions require weight limits. The inventory of restricted sections is updated annually, and restrictions are removed from the list once the surface has been upgraded.

WSDOT has designated all of its state roadways as truck routes and has few weight or height restrictions on these facilities. Freight mobility on Interstate 5 and Interstate 205 is especially important for through freight movements and are a critical link in north-south freight movements on the entire West Coast between Canada and Mexico. In addition, I-5 provides truck access to the Port of Vancouver and nearby industrial facilities. I-205 provides access for the high tech industries in East County for air shipments from Portland International Airport and SeaTac.

Most of the freight truck activity occurs between 6:00 AM and 4:00 PM with the highest truck traffic volumes found near midday. During the morning peak traffic period (AM peak) trucks account for approximately 5 to 10 percent of the total traffic volume on primary truck routes. During the evening peak traffic period (PM peak) the volume of truck traffic generally decreases and accounts for less than 5 percent of the total traffic.

Future Conditions

An adequate level of mobility should be maintained for freight and goods movement in Clark County and in the Vancouver-Portland metropolitan area as a whole to sustain the economic activity of the metropolitan region and the States of Washington and Oregon. As traffic congestion continues to increase in more locations and for longer periods, the freight industry will experience longer shipping schedules and delays. This will likely increase the cost of transporting the goods. Of particular concern is the I-5 bridge over the Columbia River, which is already operating at capacity. In addition, the long queues of traffic resulting from congestion on I-5 could block truck access to downtown Vancouver and the Port of Vancouver. The budget constraints at the federal, state, and local levels of government will limit the amount of funding for roadway improvements including those for upgrading pavement conditions on restricted truck routes. This will place more of a burden on the remaining truck route system.

~~The movement of goods by truck and rail was a significant area of interest in the technical work supporting the I-5 Transportation and Trade Partnership Strategic Plan. An examination of the I-5 corridor under projected 2020 peak traffic conditions with known, funded transportation improvements indicates that the value of truck delay will increase by 140% from $14.1 million in 2000 to $34 million in 2020. Assuming that all of the known, but unfunded, improvements could be in place by 2020, only reduces that increase in delay by 52%. The Strategic Plan calls for improvements to the transportation system to preserve the capacity of the corridor for freight movement.~~

There are short and long-term planning measures that can be implemented ~~for short and long-term planning~~ for preserving an adequate level of freight mobility as identified in the RTC freight transportation study and the I-5 Trade and Transportation Partnership Strategic Plan.

~~Rail~~

~~Rail service in Clark County is operated by the Burlington Northern Santa Fe Railroad (BNSF), AMTRAK, the Union Pacific Railroad (UP), the Lewis and Clark Railway Company (LINC), and the Battle Ground, Yacolt, and Chelatchie Prairie Railroad Association (BYCX). These operators provide either passenger or freight service as described below.~~

~~**Burlington Northern and Santa Fe Railroad (BNSF)** operates freight service 365 days a year in Clark County. All BNSF trains in Clark County are dispatched from Seattle. BNSF maintains and operates the Vancouver rail yard, which serves as the primary classification yard for the Portland-Vancouver metropolitan area. This facility contains 35 miles of track with a holding capacity of 1,500 rail cars. Overflow from BNSF tracks can be accommodated by the Port of Vancouver, which maintains supplementary holding tracks. The BNSF Seattle/Vancouver line has two tracks, both in excellent condition, operating 75-80 trains daily in the corridor, consisting of BNSF, UPRR and Amtrak. The Vancouver to Spokane line is single track in excellent condition operating between 35 and 42 trains per day in the corridor. The Rye Branch is a short segment that diverges from the main line just north of 78th Street and runs from the mainline to Rye Yard off St John's Road. The track is in fair condition with tri-weekly service. This line was given to Clark County after the floods of 1996. The overall condition of BNSF's Clark County track is excellent. The speed limits on the BNSF mainline are not due to track condition, but rather the many at-grade crossings with arterial streets.~~

~~**Clark County Railroad** is owned by the county but leased to two different outside operators; the Battle Ground, Yacolt and Chelatchie Prairie Railroad Association and the Columbia Basin Railroad (CBRR). The 33-mile line extends from the BNSF mainline in north Vancouver, diagonally through the county from the Rye yard to Chelatchie Prairie and offers both freight and passenger excursion services. CBRR serves freight customers on the "South Line" which is the line segment south of Battle Ground. Freight cargo deliveries of pipe, plastics, industrial sands, rail ties and other products are made to local industries. BYCX operates a passenger excursion program on the "North Line" which is north of Battle Ground. Special trips are made during the holiday season for Christmas trees.~~

~~**AMTRAK** has an agreement with BNSF to operate passenger service on the freight carrier's rail lines. AMTRAK operates passenger and parcel service 365 days a year throughout Clark County. Twelve daily AMTRAK trains serve Vancouver. The Empire Builder travels between Seattle and Chicago via Portland, Oregon; the Coast Starlight travels between Seattle and Los Angeles, via Portland, Oregon; and the Cascades travels between Vancouver, BC and Eugene, OR. An average of 5,274 passengers per month pass through the Clark County station and almost 350,000 riders travel between Portland and Seattle each year. The overall condition of AMTRAK facilities is good. If funded, the incremental improvements identified in the Draft Long Range Plan for Amtrak Cascade service would increase speeds, ridership and service levels over the next twenty years.~~

~~**Union Pacific Railroad** operates some freight trains to Tacoma and Seattle on BNSF's lines. Union Pacific Railroad is privately owned and operates freight service 365 days a year. Twenty trains per day run north from Vancouver through Woodland and up to the Seattle area.~~

~~**Port Districts**~~

~~Clark County has three port districts: the Port of Vancouver, the Port of Camas-Washougal, and the Port of Ridgefield. Only the Port of Vancouver provides commercial waterborne shipping facilities.~~

~~**Port of Vancouver, USA**, created by Clark County taxpayers in 1912, is one of the major ports on the Pacific Coast. Located in the convenient hub of marine, rail, highway and air cargo transportation network, the Port of Vancouver currently has over 40 companies on port property. The port has over 94 acres available for immediate development within the current operating facility. The future Columbia Gateway project expansion will provide 1,106 acres of land available for expansion and development for heavy and light industry, manufacturing, distribution warehousing, research and business park uses.~~

~~**Port of Camas/Washougal's** taxing district extends over 95 square miles of land with an industrial park, marina, airport, park and wildlife refuge. The 430-acre industrial park, located south of SR-14 by Index and 27th to 32nd Streets, has 34 industries, each of which employs between one and 170 people. The marina has moorage to accommodate 330 boats plus 25 additional slips for guests, two yacht clubs, and a boat launch. South of the industrial park is Capt. William Clark Park at Cottonwood Beach. The Port district also operates Grove Field Airport (described in the following section).~~

~~**Port of Ridgefield** was incorporated in 1940 to provide economic development to the greater Ridgefield area. The district covers 110 square miles with boundaries the same as those of the Ridgefield School District. The Port operates the Lake River Industrial Site adjacent to downtown Ridgefield. This property covers 40 acres and includes a public boat launch as well as canoe and kayak launch. The Port owns parcels of land at the I-5/Pioneer Street interchange that are available for development. Parcels; 5.7, 3, and 2 acres are zoned light industrial and fully served with utilities and sewer. The Port also owns 30 acres within the Ridgefield UGA northeast of the I-5/Pioneer Street interchange that is available for development of industrial/office flex buildings.~~

~~Aviation~~

~~Airports and air transportation services are provided in the context of a complex set of federal, state, and local governmental regulations, and each level of government has a certain degree of control over parts of the air transportation system. The Federal Aviation Administration (FAA), deals primarily with issues of safety and air traffic control. The Washington State Department of Transportation's Aeronautics Division currently focuses primarily on general aviation airports and has some direct involvement with major passenger airports. Local jurisdictions (city, county, or port district) influence land use and usually are the airport operating authorities.~~

~~There are three publicly owned and seventeen privately owned airfields operating in Clark County. The publicly owned fields are Pearson, Grove, and Woodland. The privately owned fields which are available for public use are Goheen and Fly for Fun.~~

~~The National Plan of Integrated Airport Systems (NPIAS) and the State Aeronautics Division in the Washington State Airport System Plan (WSASP) categorize these airports as general aviation airports. Amphibian aircraft are allowed in the Columbia River and several area lakes. The Resource Document contains a description of each of the airfields in Clark County. Portland International Airport (PDX) is located in Portland, Oregon, to the southwest of the I-205 Glenn Jackson Bridge. This is a regional airport with domestic and international passenger and freight (cargo) service. Passenger airlines serving PDX include Air Canada, Alaska Airlines, America West, American, Continental, Delta, Frontier Hawaiian, Horizon, Lufthansa, Mexicana, Northwest, Skywest, Southwest, Sun Country, United and United Express. Cargo carriers serving PDX include Airborne, Air China, Kitty Hawk, AmeriFlight, BAX Global, Cargolux Airlines International, DHL Worldwide Express, Emery, Empire, Evergreen, Federal Express, and Korean Air.~~

~~An important example of an economic benefit that can be derived from airports is the ability to attract compatible land use developments (e.g., commercial or industrial) on or near airport property. In many instances, land immediately on or adjacent to an airport is flat, easily developed and relatively inexpensive when compared to more centrally located business district sites.~~

~~The Washington State Department of Transportation's Aviation Division, as well as local pilots' associations, have requested that an additional airport be sited in Clark County. In the late 1980's, a study was conducted to examine the feasibility of siting an airport in the Ridgefield Junction area.~~

~~Public concern about the noise and traffic impacts of this airport resulted in not considering a new airport at that time.~~

~~A number of studies have been undertaken regarding airports, both specifically and generally in the last 20 years. An airport system plan was developed in 1984. Land use plans that incorporated airport issues were completed in 1979 (countywide) and in 1987 (Ridgefield Subarea Plan) and 1988 (South County Subarea Plan). The February 2000 Clark County Airport Advisory Task Force Report concluded that there are inadequate general aviation capacity in the county and protection and preservation of existing facilities is needed. They report also stresses the need for two-way dialog with the Port of Portland and Oregon Department of Transportation as Clark County depends economically on proximity to Oregon airports.~~

~~While these plans identified the location of existing airports on the Comprehensive Plan and recommended certain land use regulations be considered to protect the airport activities from being compromised, county ordinances were specifically amended to address some of the identified concerns of the Task Force. Applicable federal and state laws affecting land use around airports have been followed.~~

~~One of the several requirements of the GMA is that the comprehensive plan of each jurisdiction should include a process for identifying and siting essential public facilities, including airports and state and regional transportation facilities.~~

~~The local planning authority and the airport sponsor should work together to ensure that the needs of both the local and aviation communities are met and compatible land uses are planned for the future. It is important for the 20-Year Plan to include the general aviation airports when planning long-term transportation improvements.~~

~~Bicycle and Pedestrian System~~

~~The provision of bicycle facilities in Clark County is becoming increasingly important as relatively few bicycle facilities exist. No current data exists on the number of bicyclists on the road on a daily basis but the number is considered to be increasing based on interest in wanting such facilities and recreational surveys. Greater emphasis is being placed on the design of roadways for bicycles.~~

~~State Senate Bill 5186, adopted in 2005 states that local comprehensive transportation programs "…shall include any new or enhanced bicycle or pedestrian facilities identified pursuant to RCW 36.70A.070(6) or other applicable changes that promote non motorized transit." One reason for including pedestrian and bicycle elements in Senate Bill 5186 was to encourage active communities and, thus, lower health costs due to inactivity. In 2004, a local group of diverse agencies was formed called "the Active Community Environments (ACE) Intervention Team. It is a diverse group that includes health groups such as Kaiser Permanent, transportation agencies such as Southwest Washington Regional Transportation Council, and elderly groups such as the Human Services Council on Aging. ACE's purpose is to encourage an active community through community design and how to plan, design and manage communities to ensure that people of all ages and abilities can walk and bike easily, safely, and regularly.~~

~~Clark County and other local jurisdictions have included bicycle and pedestrian elements in their comprehensive plans or other plans. In 2010, the Board of County Commissioners adopted the Bicycle and Pedestrian Master Plan. This document guides the development and design of bicycle and pedestrian facilities for the County.~~

~~In September 1993, Clark County officially adopted the Trails and Bikeway System Plan, a plan for developing new bicycle and pedestrian facilities throughout the county. The System Plan was developed primarily by the Parks and Recreation Division of the Department of Public Works, with cooperation of the Transportation Division, and in the revised road standards adopted by Clark County and all its cities. Bicycling is allowed on all state routes in the county except for a portion of I-5 between the Columbia River Bridge and slightly north of the Mill Plain Boulevard interchange. However, there is no guarantee of the suitability of roadway conditions or fitness of any route for bicycling. On some facilities pedestrians and bicyclists must use the same paths creating potential conflicts.~~

~~C-TRAN began a Bike and Bus program in May of 1994. Easy-to-use bike racks are located on the front of all C-TRAN fixed route buses, accommodating up to two bicycles. In addition, bike racks or lockers are located at most park and ride facilities and transit centers.~~

~~Transportation policies are an extremely important component of the bicycle and pedestrian plan. It is more cost effective to incorporate the path at the time of initial construction if the roadway project policies provide the support and direction to plan and build facilities. The County currently has a Bicycle Advisory Committee to provide advise on bicycle facilities, mobility and safety issues.~~

~~In 2005 the Growth Management Act (GMA) was amended through SB 5186 to include requirements that additional components be addressed in growth management plans: (1) a pedestrian and bicycle component and (2) utilize new land use policies that will promote greater physical activity. The Active Community Environments (ACE) Intervention Team was established in 2004. The ACE Team completed community assessments for both unincorporated Clark County and the City of Vancouver. The Board of Directors for the Regional Transportation Commission adopted an update to the Metropolitan Transportation Plan for Clark County in 2005. The updated MTP includes a description of how a balanced transportation system with improvement of walking and bicycling opportunities can contribute to having an "active community" and thereby contribute to its health. Potential funding sources to help the community become more active include the federal Surface Transportation Program (STP) Transportation enhancement funding and the state and federal Safe Routes to School programs.~~

~~TRANSPORTATION DEMAND MANAGEMENT (TDM)~~

~~Commute Trip Reduction (CTR)~~

~~The CTR law was first passed by the state legislature in 1991. The CTR program uses partnerships among employers, local jurisdictions, planning organizations, transit systems, and the state to encourage employees to ride the bus, vanpool, carpool, walk, bike, work from home, or compress their workweek. The major goals for the CTR program are to improve transportation system efficiency, conserve energy and improve air quality.~~

~~In 2006, the Legislature unanimously adopted changes to the CTR law to make the program more effective, efficient, and targeted. The modified CTR program will officially start on January 1, 2008. To implement the CTR Efficiency Act, the Washington State Department of Transportation (WSDOT) is working with cities, counties, planning organizations, and transit systems to develop the rules and create new plans.~~

~~The 2006 CTR Efficiency Act (RCW 70.94.527) was designed to ensure that CTR plans and employer goals are coordinated with transportation and growth plans. The implementation process requires that local jurisdictions, Regional Transportation Planning Organizations (RTPOs), major employers,~~

~~transit agencies, WSDOT, and the CTR Board work collaboratively. In summary, the 2006 Commute Trip Reduction Efficiency Act:~~

- ~~Modifies the scope of the Commute Trip Reduction (CTR) program to focus on urban growth areas with the most congested state highways; those areas with greatest need and potential benefit. Within Clark County, these Urban Growth Areas are Vancouver, Camas and Washougal.~~
- ~~Creates a CTR Board to replace the CTR Task Force. The Governor appointed Board establishes policy, provides guidance and allocates funding for the CTR program. The CTR Board includes employer, city, county and transit representatives.~~
- ~~Allows local jurisdictions to create Growth and Transportation Efficiency Centers (GTECs) to allow flexibility in implementing programs.~~
- ~~Expands the role of the Department of Transportation and Regional Transportation Planning Organizations (RTPOs) in CTR planning.~~
- ~~Requires affected local jurisdictions to develop local CTR plans and requires the MPO/RTPO to develop a regional CTR plan.~~

~~The CTR program requires that local jurisdictions and RTPOs develop CTR plans in a collaborative process. Regional CTR plans are expected to be a roll-up of the local plans. Within Clark County, the affected jurisdictions of Vancouver, Camas, Washougal and Clark County, as well as RTC, are working together on CTR implementation. Currently, state CTR funds are disbursed to Clark County who contracts with City of Vancouver to manage the CTR program. In order to develop the Vancouver UGA, Camas UGA and Washougal UGA local CTR plans and the RTC regional CTR Plan the CTR planning funds that come to the jurisdictions and RTC have been pooled and a consultant has been hired to help develop the required Plans.~~

~~CTR is a program that assists employers in promoting and facilitating the use of alternative modes to and from work. The CTR law focuses on work-related trips. Trips made to and from the same location every day put the employer in a good position to market and promote a CTR program.~~

~~Where many programs demand rigorous physical system improvements with substantial financial commitments, the success of the CTR program is grounded instead in behavioral changes regarding the ways that people use transportation. Behavioral changes that individuals make to travel by carpool and vanpool, transit, bicycle, or foot can significantly affect conditions on the roadway and throughout the community, often at a fraction of the cost of many of the other system improvements.~~

~~Behavioral changes do not occur overnight or in a vacuum. Public outreach and education is critical to the successes of the CTR concepts. It is through this educational program that the public will become advocates for a better transportation system, supporting a more responsive system in both speech and action.~~

~~The key to successfully reaching CTR goals is the development of site specific TDM programs and implementation measures. Typical TDM measures to reduce congestion include:~~

- ~~TDM and transit information centers at worksites;~~
- ~~preferential high occupancy vehicle parking;~~
- ~~transit subsidies;~~
- ~~parking charge;~~
- ~~ride match service; and,~~

- ~~the provision of bike racks and facilities for bicyclists.~~

Parking

Parking policy, codes, and pricing have the most direct effect on commuting behavior and choice of modes for travel. Parking policy through the 1970s and into the 2000s concentrated on providing abundant off-street parking (both private and public) and closely monitoring available low cost on-street metered parking to attract business and encourage economic growth. While the parking programs today are much the same as they were 20 years ago in terms of attracting businesses, the means to this end are slightly different. Today, visions of mixed-use centers, higher density housing developments, and a pedestrian- friendly environment are being incorporated into the 20-Year Plan elements. Although parking has always been a hotly contested issue, especially for those individuals desiring to drive to their destination, parking policies of the past are at odds with current goals.

Livable neighborhoods and pedestrian friendly environments are critical to the success of alternative transportation opportunities such as transit, carpooling, bicycling, walking and even ~~light rail~~high capacity transit. Where walkable and transit-friendly environments exist, the need for parking can actually decrease. The larger (in actual area) the transit friendly and walkable environment, the greater the potential decrease in parking demand. A decrease in parking can be realized only with a supporting and usable transit system, as well as pedestrian amenities. In the absence of such an environment, the demand for available parking will remain.

Transportation Security

In compliance with RTC's Certification checklist, this TE references Appendix F: Transportation Security in the Vancouver/Clark County Region. ~~I-5 Transportation and Trade Partnership~~

~~This study examined the critical Interstate 5 corridor from the Rose Quarter area of Portland, Oregon to the junction of I-5 and I-205 in Clark County with a particular emphasis on the areas most influenced by the Columbia River crossing ("bridge influence area"). Among the recommendations from the bi-state citizen, business and elected official task force were several seeking greater system efficiency through demand and system management, including:~~

- ~~Set final, acceptable, attainable and measurable targets for TDM/TSM in the I-5 corridor;~~
- ~~As an interim measure, seek to increase the non single occupant vehicle (non-SOV) share of cross-Columbian travel in the peak periods to 43 percent by 2020 from an existing estimate of 38 percent in 2000;~~
- ~~As an interim measure, maintain mid-day average travel speeds in the I-5 corridor at 70% maximum posted limits to avoid peak spreading into the hours common to heavy truck movement;~~
- ~~As an interim measure, reduce daily vehicle miles traveled (VMT) per capita for the urban areas of Clark, Multnomah, Clackamas and Washington Counties by 10 percent by 2020;~~
- ~~As an interim measure, increase peak period travel reliability through the I-5 Corridor and major arterials by maintaining travel times for all vehicles;~~
- ~~Increase commitment in the four-county region to TDM/TSM services by providing more funding to a range of TDM/TSM programs and projects;~~
- ~~Increase support for transit services since additional transit service is the single most important investment necessary to achieve the TDM/TSM targets identified; and,~~
- ~~Fund and conduct a regional TDM/TSM study and plan.~~

~~Transportation System Management~~

~~The term Transportation System Management (TSM) is applied to a wide range of transportation system improvements that tend to have low or no capital cost but address impediments to efficient operation of the transportation system. TSM measures can be applied on a spot or corridor basis. Clark County currently employs TSM measures to gain additional operational capacity on major arterial corridors. Active TSM measures in place include:~~

- ~~corridor access management;~~
- ~~channelization of traffic at intersections;~~
- ~~traffic signal coordination; and,~~
- ~~Intelligent Transportation System (ITS).~~

~~One of the most effective TSM measures is a program to address inappropriate land use access to arterial roadways. While new development is required to comply with the county transportation standards (CCC Chapter 40.350), existing land use on county arterials may have been permitted inappropriate access to those arterial roadways. The most efficacious approach to corridor-level access management is to address access issues when arterial capacity is expanded.~~

~~Another approach to TSM involves the identification of small capital improvements that can be demonstrated to add significantly to the capacity of an arterial. For example, at an intersection having a shared through and left-turn lane the traffic signal must be timed to separate that approach from the approach facing it (to allow for free flow of the left-turning traffic). The necessity of splitting that phase of the traffic signal timing creates an inefficiency, which could be removed if a separate left-turn lane is constructed.~~

~~A third approach, which is most applicable to high-volume roadways (e.g., Interstates and parkway arterials), is to provide incident management services in a single or series of corridors to address traffic management during incidents (e.g., vehicle collisions, breakdowns) so that such incidents are cleared quickly. Washington State Department of Transportation has a program to provide incident management patrols for the higher-volume state highways (I-5, I-205, SR-14).~~

~~Clark County uses traffic signal coordination systems to improve the operational efficiency of the regional transportation system in the following corridors:~~

- ~~NE 134th Street (I-205 NB off-ramp to approximately NW 11th Avenue)~~
- ~~NE 99th Street (NE Hazel Dell Avenue to Highway 99)~~
- ~~NE 78th Street (NW 9th Avenue to NE St. Johns Road)~~
- ~~Padden Parkway (NE Ward Road/NE 162nd intersection to NE 137th Avenue)~~
- ~~NE Ward Road (NE 78th Street to NE 76th Street)~~
- ~~NE Fourth Plain Road (NE 102nd Avenue to the shopping center entrance signal at approximately NE 114th Avenue)~~
- ~~NE Highway 99 (several separate systems – NE 129th Street to NE 134th Street, NE 117th Street to NE 88th Street, NE 78th Street to NE Ross Road in the City of Vancouver)~~
- ~~NE 20th Avenue (NE 134th Street to NE 139th Street)~~
- ~~NE Andresen Road (NR 58th Street to NE 88th Street)~~

~~The unsignalized intersection LOS methodology is not used as a criteria to install signals. Underutilized intersections must meet legal signal warrants (volume, safety, and operating criteria) before a signal can be installed. Indiscriminate installations of traffic signals can actually increase accidents as well as add unnecessary expense.~~

~~Traffic signal coordination is part of a broader regionally coordinated ITS program called Vancouver Area Smart Trek (VAST). The VAST program was initiated in 1999 through a partnership of transportation agencies including the Southwest Washington Regional Transportation Council, Clark County, the cities of Vancouver and Camas, ODOT, WSDOT and C-TRAN to coordinate, plan and fund ITS projects. ITS uses real time information to integrate and manage road traffic, transit, ramp meters, traffic signals and to manage incidents for more efficient performance. The components of the VAST Program include communications infrastructure, traveler information, incident management, transportation management, transit priority, transit operation and management. The VAST Implementation Plan is a twenty-year prioritized project list. The short term projects include interconnected and adaptive signal control, freeway cameras and roadway detection, variable message signs, a traveler information system, and a traffic management center.~~

~~Clark County does not program transportation funds explicitly for TSM projects but is called upon annually by citizens to address perceived transportation deficiencies (e.g., requests for traffic control). Public Works staff is also called upon to submit suggestions for operational improvements to the roadway system based on their experiences on those roads. Many of the projects and actions that result from these suggestions and requests fall into the category of TSM.~~

~~Level of Service~~

~~Level-of-service standards represent the minimum performance level desired for transportation facilities and services within the region. They are used as a gauge for evaluating the quality of service on the transportation system. The GMA states that "level-of-service standards shall be established for all arterials and transit routes to serve as a gauge to judge the performance of the system." The GMA directs that these standards should be established locally and coordinated regionally for local arterials and for highways of regional significance. The standards are used to identify deficient facilities and services in the existing transportation system. Highways of statewide significance (RCW 47.06.140) have a level of service set by the state.~~

~~LOS Definitions~~

~~Level-of-service standards can be based on performance along a segment of a roadway or at an intersection. The Highway Capacity Manual includes different level of service definitions and descriptions of operating characteristics for freeways, highways, urban streets and signalized intersections, because driver expectations and the measures of effective performance are different for each type of facility.~~

~~For freeways and highways, LOS is described in terms of the relationship of actual travel speeds to free flow speeds, the freedom to maneuver within the traffic stream and the effects of minor incidents or breakdowns on the traffic stream. The descriptions of each level of service for highways are listed below for illustrative purposes.~~

> ~~**Level of Service A:** describes completely free flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.~~
>
> ~~**Level of Service B:** also indicates free flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.~~

~~**Level of Service C:** the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. On multilane highways with a free flow speed above 50 miles per hour, the travel speeds reduce somewhat. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant traffic disruption.~~

~~**Level of Service D:** the ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.~~

~~**Level of Service E:** represents operations at or near capacity, an unstable level. The densities vary, depending on the FFS. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F. For the majority of multilane highways with free flow speeds between 45 and 60 miles per hour, passenger car mean speeds at capacity range from 42 to 55 miles per hour, but are highly variable and unpredictable.~~

~~**Level of Service F:** represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods followed by stoppages. Travel speeds within queues are generally less than 30 miles per hour.~~

~~The table below shows Level of Service definitions for urban arterials and signalized intersections as defined by the Highway Capacity Manual 2000 edition. Clark County does not use this level of service definition, but it is shown here for reference.~~

~~**Table 5.7 Level of Service Definitions (HCM)**~~

~~**Level of Service**~~						
~~**Classification**~~	~~**A**~~	~~**B**~~	~~**C**~~	~~**D**~~	~~**E**~~	~~**F**~~
~~Type I Urban Arterials Roadway Segment: Avg. Travel Speed (mph)~~	~~**>42**~~	~~**>34 - 42**~~	~~**>27 - 34**~~	~~**≥21 - 27**~~	~~**≥16 - 21**~~	~~**< 16**~~
~~Type II Urban Arterials Roadway Segment: Avg. Travel Speed (mph)~~	~~**≥35**~~	~~**≥28 - 35**~~	~~**≥22 - 28**~~	~~**≥17 - 22**~~	~~**≥13 - 17**~~	~~**< 13**~~
~~Signalized Intersections Delay per Vehicle (seconds)~~	~~**≤10**~~	~~**> 10 - 20**~~	~~**> 20 - 35**~~	~~**> 35 - 55**~~	~~**> 55 - 80**~~	~~**> 80**~~
~~Unsignalized Intersections Delay per Vehicle (seconds)~~	~~**0 -10**~~	~~**> 10 - 15**~~	~~**> 15 - 25**~~	~~**> 25 - 35**~~	~~**> 35 - 50**~~	~~**> 50**~~

~~Source: Highway Capacity Manual, Transportation Research Board, 2000~~

~~**Clark County Level-of-Service Standards**~~

~~Clark County level-of-service standards are applied at both the corridor and intersection level of analysis. The concurrency ordinance identifies specific, designated arterial corridors. Level of service standards on these corridors are defined in the concurrency ordinance in terms of minimum travel speed during the PM peak hour.~~

~~In addition, intersections are subject to level-of-service standards similar to those in Table 5.5. Within designated corridors, individual movements at signalized intersections must not exceed two cycle lengths or 240 seconds, whichever is less. Outside of designated corridors, signalized intersections (with two exceptions) must meet LOS D or better. Unsignalized intersections of regional significance must meet LOS E or better.~~

~~The level-of-service on highways of statewide significance (HSS) has been set by the Washington State Department of Transportation at LOS C for rural facilities and D for urban facilities in Clark County. Levels-of-service for Highways of Regional Significance have been set by RTC at LOS C for rural facilities and LOS E for urban facilities in Clark County.~~

~~The GMA requires that each jurisdiction demonstrate that they can pay for proposed improvement projects from reasonably available funding sources. Deficient roadways are defined as those links or intersections that exceed the adopted LOS standard. Therefore, the adopted LOS standard will determine the current and future improvements projects in the transportation plan. The roadway LOS standard must reflect a reasonable balance between the amount of improvements the county and its cities can afford and the amount of congestion the public can tolerate. The capital facilities plan is comprised of projects necessary to maintain the defined standards through 20-years of growth.~~

~~Level-of-service standards for transit are also required as part of the GMA planning process. The recommended LOS indicators for transit service are shown in Table 5.8. These indicators, based on draft service standards, will be updated in 2007 as C-TRAN adopts new service standards.~~

~~Table 5.8 C-TRAN LOS Indicators~~

~~PLANNING INDICATORS~~							~~SUPPORTING FACTORS~~	
~~SERVICE CLASSIFICATION~~	~~PASSENGERS PER REVENUE HOUR TARGET~~	~~PEAK/ NON-PEAK HEADWAYS~~	~~BUS STOP SPACING~~	~~ACCESSIBILITY (within service boundary)~~	~~MAXIMUM LOAD FACTOR~~	~~SERVICE SPAN (hours/ day, days/week)~~	~~DENSITY~~	~~SUPPORTING FACTORS~~
~~COMMUTER EXPRESS SERVICE~~	~~27~~	~~10–15, peak only~~	~~Park & ride locations~~	~~Within 5 miles of 80% of pop+emp~~	~~1.25~~	~~M–F, peak only~~	~~High density employment district as destination~~	~~Near full cost recovery, parking mgmt, sufficient park & ride spaces/transit connections~~
~~LOCAL URBAN AND LIMITED SERVICE~~	~~22-28~~	~~15-30/30-60~~	~~1/8—1/4 mile~~	~~Within 1/4 mile of 70% of households where fixed route operates~~	~~1.5~~	~~7 days, 17 hours~~	~~8–15 residential dwelling units per acre, 80 or more employees per acre~~	~~Land use/zoning and development that supports transit use, trip generators/ destinations along corridor, pedestrian and bicycle facilities~~
~~INNOVATIVE TRANSIT SERVICE~~	~~6~~	~~Varies~~	~~Designated locations~~	~~Accessible to all households within Connector service area~~	~~1.25~~	~~M–F, 9 hours~~	~~4 dwelling units per acre, lower density areas not~~	~~Pedestrian and bicycle facilities, connection to fixed route network~~

							~~supportive of fixed route~~	
~~**PARATRANSIT**~~	~~3~~	~~N/A~~	~~N/A~~	~~Vancouver UGA and within 3/4 mile of fixed routes outside the Vancouver UGA~~	~~1.0~~	~~7 days, 17 hours~~	~~N/A~~	~~Clear eligibility criteria for service, coordination with human services transportation providers, travel training~~
~~**VANPOOL**~~	~~6-12~~	~~N/A~~	~~N/A~~	~~Service available for commute trips that begin, end or pass through Clark County~~	~~1.0~~	~~As needed for work schedule~~	~~N/A~~	~~Parking mgmt., employer subsidies/ tax credits, CTR program~~

3. CONCURRENCY

Concurrency Requirements

The concurrency requirement of the GMA mandates that local jurisdictions adopt and enforce ordinances that prohibit development approval if the development causes the LOS on certain transportation facilities to decline below the standards adopted under the comprehensive plan, unless transportation improvements or strategies to accommodate impacts of the development are made concurrent with the development. Concurrent with development means that improvements or strategies are in place at the time of development, or that a financial commitment is in place to complete the improvements or strategies within six years. Clark County will meet these requirements through implementation of the adopted concurrency ordinance. ~~The county has adopted a higher three-year funding standard for concurrency.~~

Concurrency policies are applied to local arterials identified in the capital facilities plan ~~and to highways of regional significance (state-owned facilities not designated as HSS)~~. Highways of statewide significance are exempt from local policies. The concurrency requirements of the GMA closely match the State Environmental Policy Act (SEPA) short-term impact analysis requirements as they both evaluate transportation impacts (namely the roadway, corridor and intersection LOS) at the year of opening of the development or a specified short-term analysis year. A State Environmental Policy Act (SEPA) transportation impact analysis would specify a study area. Concurrency requires an evaluation of area-wide impacts and specific mitigation of those impacts concurrent with the development opening.

Concurrency Management System

The concurrency management system must address concurrency monitoring and concurrency regulation for new development. The county and its cities are responsible for concurrency monitoring and the project applicant is responsible for demonstrating concurrency of the proposed development. The concurrency management system will include all designated corridors along identified arterials and their intersections on the regional system, except for facilities of statewide significance or intersections with facilities of statewide significance. In addition, all intersections of regional significance will also be subject to concurrency testing. Implementation of concurrency monitoring in the county and with local jurisdictions consists of the following strategies:

- LOS is monitored in an established database that includes all intersections within the concurrency management system~~. Traffic counts will be updated at least every three years. Estimates will be prepared for other years~~;
- The regional model and other traffic simulation models are used to estimate LOS for roadway segments. A traffic data collection program has been established for roadway segments;
- A tracking system is in place to monitor development applications for "used capacity~~;~~." and Reserved capacity for new development is based on approved applications.~~; and.~~
- ~~Incorporate the use of the proactive concurrency tools identified in the TCSP study.~~

~~Balancing Concurrency and Growth Management: the Transportation Concurrency and Growth Management Study (TCSP) was funded by a Federal Highway Administration grant. The study determined how the transportation concurrency regulations are helping the county meet growth management goals, and to identify appropriate changes to the program. The study focused on two~~

~~areas of improvements; 1) programmatic improvements to assure that short term transportation system development leads to long term transportation and land use goals of the fifty-year vision; and, 2) policy options to be implemented through the concurrency ordinance to encourage appropriate development patterns.~~

~~The TCSP study provided guidance on how transportation modeling, funding, and planning could be modified to better meet policy goals. There may also be new policy directions exploring increased transit use or allocating road capacity to job-creating land uses. These policies may be implemented in a future update to the concurrency program.~~

~~Financial Analysis~~

~~A financial analysis was prepared for the Transportation Element to demonstrate the ability of the county to fund planned roadway improvements. The GMA requires that there be a balance between proposed land use, resulting traffic forecasts and transportation improvements directed by the LOS standards and available revenues. The GMA requires that public facilities and infrastructure either be in place or included in a six-year improvement program before new development can be approved. The GMA also enables the imposition of impact fees, which are used to finance the shortfall between revenue and the cost of the transportation plan. Clark County adopted an impact fee ordinance in September 1990 and has amended that program in 1994 and 2001 to address increasing improvement costs. A substantial traffic impact fee program update is expected to be completed in 2007-8. The financial analysis consists of four parts:~~

- ~~Review existing transportation funding sources and forecast revenues through 2012 (six-year horizon), based on existing trends;~~
- ~~Review annual expenditures for streets and project expenditures through 2012, based on existing trends;~~
- ~~Prepare estimated costs for transportation improvement projects; and,~~
- ~~Compare revenue and expenditure projections, estimated capital improvement costs and identify potential shortfalls in funding the capital improvement program.~~

~~Existing Revenue Sources~~

~~Revenues available for financing roadway activities in the county and its cities can be highly variable, depending on the amount of development activity occurring in the county, the number of successful grant applications and other local economic factors. Funds for roadway related activities come from five general sources:~~

- ~~County Road Fund revenue from property tax;~~
- ~~Public Works Trust Fund loans;~~
- ~~local improvement district bonds;~~
- ~~Traffic Impact Fees adopted by the BOCC; and,~~
- ~~Distribution of funds from state and federal sources (e.g., state gas tax allocations).~~

~~Funds allocated from general county and city revenues are distributed through the budgetary process. Though these funds are highly dependent on general economic conditions, the budgetary process can soften the impact of fluctuation in the economy and stabilize the year-to-year variation in funds allocated to roadways.~~

~~Revenues derived from roadway related activities and from outside sources usually do not have the benefit of the budgetary process. Budgetary decisions cannot smooth out fluctuations when these revenues are dedicated solely to public works activities by the nature of the fee or by the state and federal government. Impact fees are contingent upon project and development activity and subject~~

~~to return to the developer if not spent within 6 years. Funds from state and federal sources are restricted by their own budgetary limitation of those jurisdictions. Funds for individual modes have traditionally been allocated by individual agencies; however federal funding sources now allows some flexibility in funds between roadways, transit, and non-motorized modes.~~

~~The variability of the budgetary process, local economic conditions and federal and state sources often cause individual revenue sources to fluctuate widely from year to year. This creates difficulty in tracking definable trends in revenue growth from these sources. Total revenue dedicated to road activities rises and falls with the fluctuation of individual sources, though the amplitude is buffered as some sources fall and others rise, absorbing some of the impact of each. Loans from the Public Works Trust Fund can be used to balance or buffer variations in grant funding.~~

~~Revenue Perspective~~

~~The revenue estimate for road capital facilities is based on historic trends for several revenue sources including road fund property tax, road fund gas tax, TIF revenues, and annual grant funding. The Revenue Perspective document, which outlines the assumptions used to develop the forecast, is included as a supporting document to this Plan. Table 5.9 presents the 20-year revenue and expenditure forecasts.~~

~~Projected Expenditures~~

~~Long-range capital improvements to the county's transportation system and their estimated costs are included in the Capital Facilities Plan. These projects would likely be funded through a combination of state sources, the Transportation Improvement Board, and a local match. Local contributions can raise the likelihood of project funding, and typical (although not average) local matches are 20 percent. Note that in order to meet LOS standards and build new roadways consistent with the plan, many of the local streets must be built entirely by developer contributions.~~

~~Comparison of Need and Revenues~~

~~The summary presented above addresses the revenues and capital projects required to maintain level-of-service on local facilities except where noted above under Table 5.6. Improvements to highways of regional significance are addressed in the Metropolitan Transportation Improvement Program reviewed biannually by the Regional Transportation Council and are financially constrained. Improvements to highways of statewide significance are detailed in the Washington State Department of Transportation Highway System Plan which includes a description of both financially constrained and unconstrained planned improvements. Both the regional MTP and the Washington State Highway System Plan are incorporated by reference. The needs identified on the local system are consistent with the financially constrained portions of both the state and regional plans, as identified in the Capital Facilities Plan.~~

~~Table 5.9 Capital Revenues and Expenditures 20-Year Projection~~

~~Revenue~~	~~$788,560,798~~
~~Expenditure~~	~~$952,254,000~~
~~Balance*~~	**~~-$163,693,202~~**

~~Strategies to Balance the CFP~~

~~The Growth Management Act requires the 6-year transportation improvement plan to be financially constrained and balanced. The 20-year transportation capital facilities plan is more speculative and is not required to be balanced. The projected revenue shortfall of $163.7 million~~

~~represents about 17% of the total projected capital cost, which could be considered significant in the absence of any strategies to close the gap.~~

~~There are a variety of strategies and policy actions available to the Board of County Commissioners to balance the 20-Year CFP. Options for increasing revenues include updating Traffic Impact Fees, adopting a motor vehicle excise tax of up to $20 per vehicle and increasing the local option fuel tax to the statutory limit. The *Revenue Perspective* projected that Traffic Impact Fee revenue would be $43 million over the 20-year period. Based on recent policy decisions and preliminary work on the Traffic Impact Fee update, it is realistic to assume that an additional $40 to 50 million will be raised from these fees. Grant revenue estimates are also very conservative.~~

~~On the cost side, the public share of many of the capital projects could be substantially reduced if policy changes were adopted that limited traffic impact fee reimbursements to only the extra width of the roadway. Current policy provides reimbursement for construction of even that portion of the frontage improvements that would normally be required with development.~~

~~A second round of reductions in the capital projects list is also likely. Several projects on the list would not contribute substantially to mobility on the transportation network in proportion to their estimated cost. Other listed projects are in areas that are likely to be annexed before county financing is available and would then become the responsibility of the annexing city.~~

~~The Transportation Capital Facilities Plan will be reviewed on a regular basis, not to exceed every five years, to ensure that the projected gap between costs and revenues is declining. If the potential shortfall increases and becomes critical, the potential courses of action in addition to those identified above would include reduction in the level of service standards and reassessment of the land use plan.~~

4. ~~Goals and~~ Policies and Strategies

Transportation policies that seek to provide for the mobility of people and goods must consider increases in travel demand caused by growth in population and employment. The transportation system must be affordable and minimize environmental impacts to maintain the quality of life. A safe, efficient transportation system can work to enhance economic development within a region in conjunction with supportive land use plans.

Community Framework Plan

The Community Framework Plan and the comprehensive plans of the county and its cities envision a shift in emphasis from a transportation system primarily based on private, single-occupant vehicles to one based increasingly on alternative, higher-occupancy travel modes such as ridesharing, public transit, and non-polluting alternatives such as walking, bicycling, and telecommuting. This shift in emphasis is due ~~to changes in~~ funding constraints at the federal and state level as well as consideration of the thirteen GMA planning goals contained in RCW 36.70A.020.

Regional policies are applicable countywide. Urban policies only apply to areas within adopted urban growth areas (UGAs) and are supplemental to any city policies. Rural policies apply to all areas outside adopted UGAs.

Goals and Policies

5.0 Countywide Planning Policies

5.0.1 Clark County, Metropolitan Planning Organization (MPO) and the Regional Transportation Planning Organization (RTPO), state, bi-state, municipalities, and C-TRAN shall work together to establish a truly regional transportation system which:

- reduces reliance on single occupancy vehicle transportation through development of a balanced transportation system which emphasizes transit, high capacity transit, bicycle and pedestrian improvements, and transportation demand management;
- encourages energy efficiency;
- recognizes financial constraints; and,
- minimizes environmental impacts of the transportation systems development, operation and maintenance.

5.0.2 Regional and bi-state transportation facilities shall be planned for within the context of countywide and bi-state air, land and water resources.

5.0.3 The state, MPO/RTPO, county, and the municipalities shall adequately assess the impacts of regional transportation facilities to maximize the benefits to the region and local communities.

5.0.4 The state, MPO/RTPO, county, and the municipalities shall strive, through transportation system management strategies, to optimize the use of and maintain existing roads to minimize the construction costs and impact associated with roadway facility expansion.

5.0.5 The county, local municipalities and MPO/RTPO shall, to the greatest extent possible, establish consistent roadway standards, level-of-service standards and methodologies, and functional classification schemes to ensure consistency throughout the region.

5.0.6 The county, local municipalities, C-TRAN and MPO/RTPO shall work together with the business community to develop a transportation demand management strategy to meet the goals of state and federal legislation relating to transportation.

5.0.7 The state, MPO/RTPO, county, local municipalities and C-TRAN shall work cooperatively to consider the development of transportation corridors for high capacity transit and adjacent land uses that support such facilities.

5.0.8 The state, county, MPO/RTPO and local municipalities shall work together to establish a regional transportation system which is planned, balanced and compatible with planned land use densities; these agencies and local municipalities will work together to ensure coordinated transportation and land use planning to achieve adequate mobility and movement of goods and people.

5.0.9 The state, county, MPO/RTPO and local municipalities shall work together to establish a regional transportation system which is planned, balanced and compatible with planned land use densities; theses agencies and local municipalities will work together to ensure coordinated transportation and land use planning to achieve adequate mobility of goods and people.

5.0.10 State or regional facilities that generate substantial travel demand should be sited along or near major transportation and/or public transit corridors.

County 20-Year Plan Policies~~Transportation Goals and Policies~~

In addition to the policies adopted by all local jurisdictions, the County has adopted transportation goals policies specific to areas within County jurisdiction.

Goal: Develop a regionally-coordinated transportation system that supports and is consistent with the adopted land use plan.

5.1 System Development Policies

5.1.1 The capital facilities plans, within each UGA should be jointly undertaken with the city and reviewed for regional consistency by the Southwest Washington Regional Transportation Council.

~~5.1.2 Long range land use and transportation plans shall be coordinated with high capacity transit plans.~~

5.1.~~3~~2 ~~When county~~ County Road Projects ~~are designed or~~ and transportation improvements are proposed through ~~the~~ development ~~review process, the design of those transportation facilities should~~ shall be consistent with the current adopted Clark County Road Standards, Arterial Atlas, 2010 Clark County Bicycle and Pedestrian Master Plan, Concurrency Management System, ~~and Metropolitan~~ RTC's Regional Transportation Plan, and the Washington Transportation Plan.

5.1.~~4~~3 ~~LOS~~ Performance standards for the regional arterial system and transit routes ~~should~~ shall direct growth to urban centers.

5.1.~~5~~4 The county shall provide opportunity for full and fair participation by all communities in the transportation decision-making process.

Implementation Strategies

- Prepare interagency agreements that allow for intergovernmental development review.
- Prepare interagency agreements that provide for the transfer of transportation project management and funding during annexation.
- Coordinate with local municipalities, the Washington State Department of Transportation, adjacent counties and C-TRAN to ensure that minimum roadway and multimodal design standards are consistent and that the design standards provide for all modes and are compatible with adjacent land uses.
- Establish and promote scenic highway corridors.

Goal: Develop a multi-modal transportation system.

5.2 Multi-modal System Policies

5.2.1 Roadway improvements which provide for additional capacity for the automobile shall also ~~include design accommod~~accommodate~~ations~~ ~~for~~ alternative travel modes.

5.2.2 Transit related options, including high capacity transit, shall be encouraged in order to reduce congestion and to improve and maintain air quality.

5.2.3 The regional public transportation system shall serve the needs of those with transportation disadvantages in accordance with adopted service standards. The

county, C-TRAN and local agencies shall maintain specialized transportation services and facilities to meet the requirements of the Americans with Disabilities Act.

5.2.4 The county ~~will~~ shall support new and improved passenger rail transportation services between Clark County and the Portland metropolitan area, and along the I-5 corridor from Vancouver, BC to Eugene, Oregon.

5.2.5 Regional airport planning shall include all affected jurisdictions to provide compatibility with surrounding land uses and to support adequate ground transportation to move people and goods to and from airports.

5.2.6 ~~Priority will be given to right-of-way acquisition for the non-motorized routes recommended in the adopted Clark County Trails and Bikeway System Plan. Developer contributions will be required where appropriate.~~ Development projects and county road projects shall follow policies in the 2010 Clark County Bicycle and Pedestrian Master Plan.

5.2.7 ~~A safe and secure walkway network shall be established within urban areas and rural centers.~~The county supports the development of its bicycle and pedestrian network identified in the 2010 Clark County Bicycle and Pedestrian Master Plan.

5.2.8 The county supports coordination among the jurisdictions and agencies in the development of bikeway and pedestrian facilities.

5.2.9 The county supports efforts to fund construction of bicycle and pedestrian improvements identified in the 2010 Clark County Bicycle and Pedestrian Master Plan.

5.2.10 Long range land use and transportation plans shall be coordinated with high capacity transit plans.

5.2.11 The county promotes bicycle and pedestrian safety and increased bicycling and walking through safety and encouragement activities.

Implementation Strategies

- Integrate the regional public transit system with other modes of transportation including auto, rideshare, bicycle, and pedestrian travel.
- Develop infrastructure to interface with inter-city bus, rail, and airline facilities.
- Coordinate with C-TRAN to integrate transit facilities such as transfer centers, bus pullouts, bus shelters, transit information centers and pedestrian connections into the design of all types of development.
- Provide rural collector level connections from rural centers to major multimodal transportation corridors and park-and-ride facilities.
- Support public transportation connections to the rural centers and encourage efficient service between rural cities, towns and centers and urban centers.
- Ensure that alternative transportation modes such as pathways, sidewalks, bus stops, and bike lanes are provided for in subdivisions and other land developments.
- Incorporate adequate checklists into the development and project review process to ensure that accessibility for the elderly and physically challenged is provided, through the construction of curb cuts and ramps, designation of parking spaces, etc.
- Participate in any new airport site selection process led by the Ports, Washington State Department of Transportation Aviation Division or other governmental entity.

- Implement the 2010 Clark County Bicycle and Pedestrian Master Plan to expand travel opportunities for transportation and recreation.
- Increase bicycle and pedestrian safety through education, and enforcement activities.
- Increase the number of people walking and cycling through education, and promotional events.
- Coordinate with local jurisdictions to ensure a seamless bicycle and pedestrian transportation system between the unincorporated County and neighboring cities.
- Establish an East Clark County Scenic Bicycle Route.

Goal: Optimize and preserve the investment in the transportation system.

5.3 System Preservation Policies

5.3.1 Development projects shall adhere to minimum driveway access spacing standards along arterial and collector streets to preserve the capacity of the transportation system. The county shall also work with ~~the state~~ Washington State Department of Transportation to ensure that minimum access spacing standards for state highways are maintained.

5.3.2 The efficiency of the county's transportation system shall be optimized through the use of Transportation System Management & Operations (TSMO) strategies such as signal interconnection ~~systems, signal~~ coordination and synchronization~~, and other signal improvements where appropriate~~.

5.3.3 The county shall extend the life of existing roadways through a timely maintenance and preservation program.

5.3.4 The county ~~will~~ shall support and promote a Transportation Demand Management program to reduce the peak hour travel demand from single occupant motor vehicles.

5.3.5 The local street system shall be interconnected to eliminate the need to use collector or arterial streets for internal local ~~trips~~traffic.

5.3.6 The county ~~will~~ shall protect the public's investments in existing and planned freeway and separated grade interchanges.

5.3.7 The county shall provide seamless arterial corridor operations between agencies and use common TSMO technology for signal coordination along multi-agency arterial corridors.

Implementation Strategies

- Install medians where feasible on arterial roadways that have inappropriate levels of land access as defined in the County Transportation Standards.
- Discourage the construction of cul-de-sacs and other forms of dead-end streets especially those without pedestrian and bicycle linkages. Require new development to provide for street/pedestrian connectivity where practicable considering environmental and other constraints. Existing unconnected streets should be retrofitted to provide bicycle and pedestrian linkages.
- Preservation program priorities will be established using the Pavement Management System.
- Truck access shall be restricted where gross weight will adversely impact the structural integrity of streets.

- Incorporate ITS where possible within urban growth areas when it is cost-efficient and will result in achieving county transportation goals.
- Require private developments to access collector and local access streets, versus direct access to the arterials. Encourage consolidation of access in developing commercial and high density residential areas through shared use driveways, interconnected parking lots and local access streets that intersect with arterials.
- Use transportation, land use and other measures to maintain or reduce vehicle miles traveled and peak hour trips by single occupant vehicles.
- Maintain the county railroad right-of-way as an industrial-commercial-tourist-recreational resource.
- Evaluate the impacts of significant land use changes on existing or planned freeway and separated grade interchanges. Coordinate with the state on mitigating impacts.

Goal: Ensure mobility throughout the transportation system.

5.4 System Mobility Policies

5.4.1 The county arterial system shall be planned in general conformance with nationally-accepted arterial spacing standards.

5.4.2 Congestion performance ~~LOS~~ standards shall be maintained by the appropriate jurisdictions on major freight mobility corridors and in the vicinity of major intermodal facilities to ensure the economic vitality of the region.

~~5.4.3 The Concurrency Management System shall be structured to support growth in areas where transit and alternative travel modes are available and to support the county's economic development strategy.~~

5.4.~~4~~3 Transportation System Management strategies should be analyzed and employed before adding a general purpose lane to any regional roadway.

5.4.4 County roadways and intersections shall be designed when feasible to achieve safety and accessibility for all modes. Arterial streets shall provide facilities for automobile, bike, and pedestrian mobility as defined in the Arterial Atlas, and shall include landscaping.

Implementation Strategies

- Complete regional corridors and address corridor bottlenecks.
- Allocate or reserve corridor capacity for land uses likely to produce family wage jobs.
- Reduce corridor speed and intersection delay standards where transit is available at 15 minute headways during peak hours.
- Provide for reduced trip rate calculations for transit supportive development.
- Emphasize transit and ridesharing in the design and construction of all transportation facilities through the implementation of transportation system management techniques (signal timing, signal prioritization) and transit-only and high occupancy vehicle lanes.
- Continually test for changes in concurrency due to major development projects.
- Incorporate a "no-build" analysis into the design process for all transportation projects that would add general purpose lanes.

GOAL: Provide a safe transportation system

5.5 System Safety Policies

5.5.1 ~~High safety standards will be maintained for motorists, pedestrians and bicyclists through the development, design and capital improvement process.~~Clark County supports the development and design of capital improvements that achieve the vision of the Washington State's Strategic Highway Safety Plan, Target Zero, which establishes a statewide policy of zero fatalities and zero disabling injury collisions by 2030.

5.5.2 Pedestrian and bicycle safety shall be given ~~priority~~ consideration in the design and capital facilities planning process.

5.5.3 Interim safety improvements ~~should~~ shall be implemented where a significant safety problem has been identified and the ~~financing~~ funding is not yet available for full improvements in conformance with adopted design standards.

5.5.4 Intersections between rail and other transportation modes ~~should~~ shall be grade separated where possible, except at intermodal transfer points.

5.5.5 Clark County supports strong education and enforcement that helps reduce the number of fatalities and serious injuries due to distracted drivers.

Implementation Strategies

- A street maintenance program shall be developed by the county for non-motorized transportation.
- Develop interagency agreements on sharing services to ensure that all shoulders and/or designated bike lanes are maintained in a safe condition.
- Priority shall be given to sidewalk construction projects in transit corridors, near school facilities and major activity centers.

Goal: Develop a balanced finance program, which ensures that new development pays the costs of its impacts and that adequate public financing is pursued and available.

5.6 System ~~Finance~~ Funding Policies

5.6.1 Priorities for programming and financing transportation improvements that reflect adopted transportation policies shall be adopted in coordination with other jurisdictions and agencies.

5.6.2 The prioritization process ~~should~~ shall be flexible to allow staff to maximize use of outside funding sources.

5.6.3 A high priority shall be given to transportation improvements supporting economic development, particularly in high-ranking Focused Public Investment Areas.

5.6.4 A portion of ~~road~~ available transportation funds shall be dedicated to sidewalk and bicycle facilities consistent with state law.

5.6.5 A proportionate share of funding for growth related roadway projects shall be obtained from Traffic Impact Fees.

Implementation Strategies

- Develop and implement a process that ensures efficient management of transportation resources through cooperation in ~~long range~~community planning and project development by federal, state, regional and local jurisdictions.
- Consider implementation of a rural traffic impact fee to offset impacts to urban corridors.
- Cooperatively work with local municipalities and the Regional Transportation Council to develop an integrated Transportation Improvement Program process to maximize the resources for the region.
- Establish funding guidelines and priorities for distribution of transportation funding among competing needs (e.g. economic development, Focused Public Investment Areas, maintenance, preservation, pedestrian safety, mobility, etc.).
- Pursue acquiring advance right-of-way for planned transportation improvements.
- Leverage local funding with innovative and aggressive finance strategies including public/private partnerships, grant development, efficient debt and fee-based funding sources including tolls, congestion pricing and other local options.

5. Financial Analysis

A financial analysis was prepared for the Transportation Element to demonstrate the ability of the county to fund planned roadway improvements. The GMA requires that there be a balance between proposed land use, resulting traffic forecasts and transportation improvements directed by the LOS standards and available revenues. The GMA requires that public facilities and infrastructure either be in place or included in a six-year improvement program before new development can be approved. The GMA also enables the imposition of impact fees, which are used to finance the shortfall between revenue and the cost of the transportation plan. Clark County adopted an impact fee ordinance in September 1990 and has amended that program in 1994, ~~and~~ 2001, and 2010 to address increasing improvement costs. A substantial traffic impact fee program update is expected to be completed in 2016-17. The financial analysis consists of four parts:

- Review existing transportation funding sources and forecast revenues through 2021 (six-year horizon), based on existing trends;
- Review annual expenditures for streets and project expenditures through 2021, based on existing trends;
- Prepare estimated costs for transportation improvement projects; and,
- Compare revenue and expenditure projections, estimated capital improvement costs and identify potential shortfalls in funding the capital improvement program.

Existing Revenue Sources

Revenues available for financing roadway activities in the county and its cities can be highly variable, from year to year depending on the amount of development activity occurring in the county, the number of successful grant applications and other local economic factors. Funds for roadway-related activities come from five general sources:

- County Road Fund revenue from property tax;
- Public Works Trust Fund loans;
- ~~l~~Local improvement district bonds;
- Traffic Impact Fees adopted by the BOCC; and,
- Distribution of funds from state and federal sources (e.g., state gas tax allocations).

Funds allocated from general county and city revenues are distributed through the budgetary process. Though these funds are highly dependent on general economic conditions, the budgetary

process can soften the impact of fluctuation in the economy and stabilize the year-to-year variation in funds allocated to roadways.

Revenues derived from roadway-related activities and from outside sources usually do not have the benefit of the budgetary process. Budgetary decisions cannot smooth out fluctuations when these revenues are dedicated solely to public works activities by the nature of the fee or by the state and federal government. Impact fees are contingent upon project and development activity and subject to return to the developer if not spent within 6 years. Funds from state and federal sources are restricted by their own budgetary limitation of those jurisdictions. Funds for individual modes have traditionally been allocated by individual agencies; however federal funding sources now allows some flexibility in funds between roadways, transit, and non-motorized modes.

The federal gas tax and other transportation fees and taxes are the major federal revenue sources for transportation funding. On December 4, 2015, the President signed into law the Fixing America's Surface Transportation Act (FAST) officially replacing MAP-21. It is important to note there are no programmatic changes in the FAST act. FAST is a five year surface transportation authorization bill which will provide spending levels for FY2016–FY2020. The former bill, Moving Ahead for Progress in the 21st Century Act (MAP-21) provided funding for fiscal years 2013, 2014, and 2015. MAP-21 incorporated performance measures to provide a more efficient investment of federal transportation funds and restructured core transportation programs.

The variability of the budgetary process, local economic conditions and federal and state funding sources often cause individual revenue sources to fluctuate widely from year to year. This creates difficulty in tracking definable trends in revenue growth from these sources. Total revenue dedicated to road activities rises and falls with the fluctuation of individual sources, though the amplitude is buffered as some sources fall and others rise, absorbing some of the impact of each. Loans from the Public Works Trust Fund can be used to balance or buffer variations in grant funding.

~~Revenue Perspective~~
~~The revenue estimate for road capital facilities is based on historic trends for several revenue sources including road fund property tax, road fund gas tax, TIF revenues, and annual grant funding.~~

Projected Expenditures
Long-range capital improvements to the county's transportation system and their estimated costs are included in the Capital Facilities Plan. These projects would likely be funded through a combination of state sources, the Transportation Improvement Board, and a local match. Local contributions can raise the likelihood of project funding, and typical (although not average) local matches are 20 percent. Note that in order to meet LOS standards and build new roadways consistent with the plan, many of the local streets must be built entirely by developer contributions.

Comparison of Need and Revenues
~~The summary presented above addresses the revenues and capital projects required to maintain level of service on local facilities except where noted above under Table 5.7.~~

6-Year Transportation Program

The Growth Management Act (36.70A) requires "a multi-year financing plan based on the needs identified in the comprehensive plan." The 2016-2021 Transportation Improvements Program (TIP) serve as the short term implementation mechanism of this plan. The TIP is financially constrained, balancing revenues with expenditures. The TIP uses objective criteria to evaluate and prioritize road

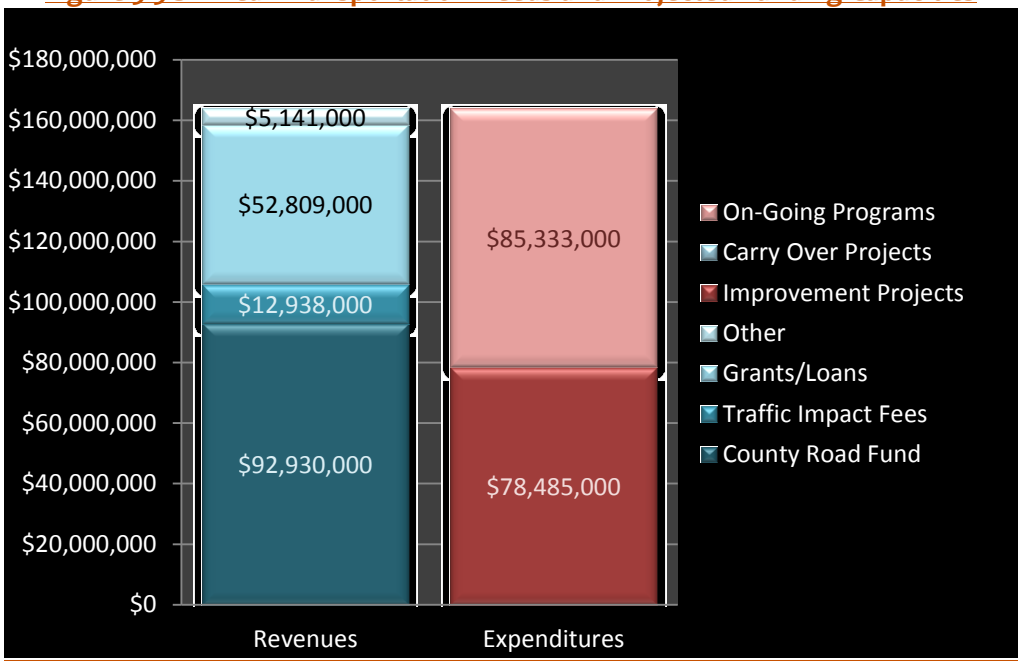
improvement projects, and assigns available revenues to projects to achieve those goals. State law requires Clark County to prepare and update annually the six-year comprehensive transportation program. The 2016-2021 TIP was adopted on November 10, 2015 by the Board of County Councilors. Table 5.7 and figure 5.5 summarizes the TIP's financial balance.

Table 5.7 Transportation Improvement Program Financial Comparison

Revenue	$163,818,000
Expenditure	$163,818,000
Balance*	**$0**

Source: Appendix A

Figure 5.5 Six Year Transportation Needs and Projected Funding Capacities



20-Year Planning Period

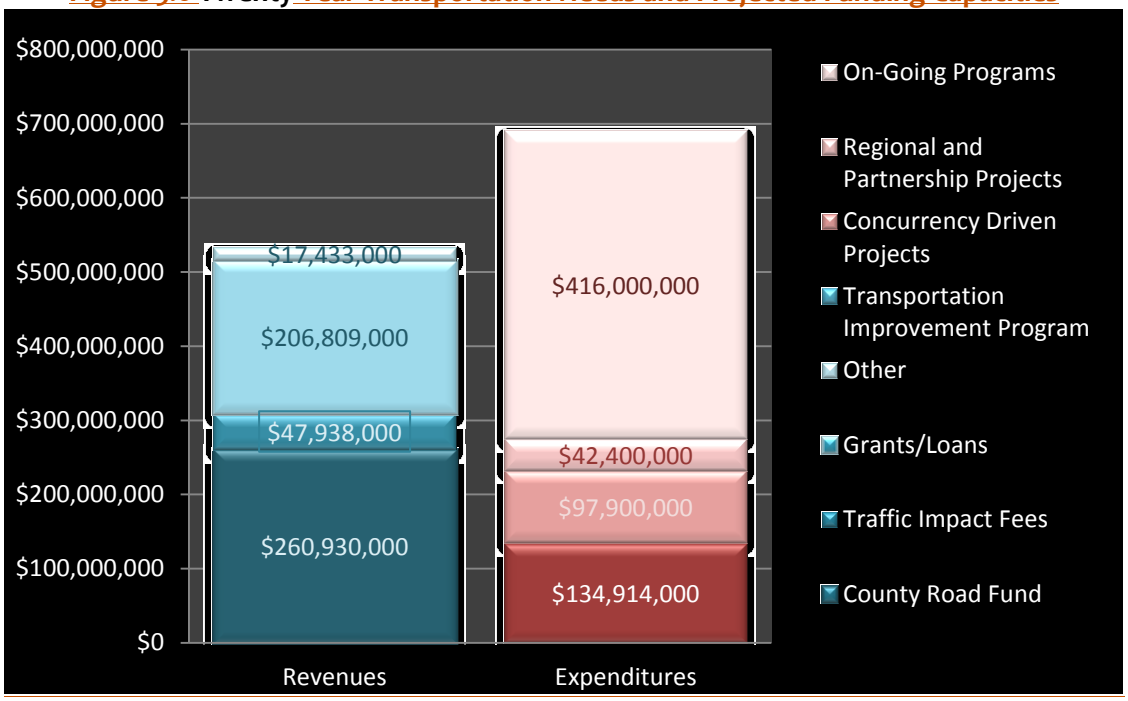
The Growth Management Hearings Boards have consistently read the GMA [RCW 36.70A.070(3)(e)] to require that estimates for revenues meet the estimated expenses for the 20-year planning period. Improvements to highways of regional significance are addressed in the Regional Transportation Improvement Program reviewed biannually by the Regional Transportation Council and are financially constrained. Improvements to highways of statewide significance are detailed in the Washington State Department of Transportation Highway System Plan which includes a description of both financially constrained and unconstrained planned improvements. Both the regional RTP and the Washington State Highway System Plan are incorporated by reference. The needs identified on the local system are consistent with the financially constrained portions of both the state and regional plans, as identified in the Capital Facilities Plan. Table 5.8 and Figure 5.6 show the estimated funding and expenses projected for Unincorporated Clark County.

Table 5.8 Capital Revenues and Expenditures 20-Year Projection

Revenue	$533,110,000
Expenditure	$691,214,000
Balance*	**-$158,104,000**

Source: Appendix A

Figure 5.6 Twenty Year Transportation Needs and Projected Funding Capacities



Strategies to Balance the CFP

The Growth Management Act requires the 6-year transportation improvement plan to be financially constrained and balanced. The 20-year transportation capital facilities plan is more speculative and is not required to be balanced. The projected revenue shortfall of $158.1 million represents about 23% of the total projected capital cost, which could be considered significant in the absence of any strategies to close the gap.

There are a variety of strategies and policy actions available to the Board of County Commissioners to balance the 20-Year CFP. Options for increasing revenues include updating Traffic Impact Fees, adopting a motor vehicle excise tax of up to $20 per vehicle and increasing the local option fuel tax to the statutory limit. Based on recent policy decisions and preliminary work on the Traffic Impact Fee update, it is realistic to assume that an additional $40 to 50 million could be raised from these fees. Grant revenue estimates are also very conservative.

~~On the cost side, the public share of many of the capital projects could be substantially reduced if policy changes were adopted that limited traffic impact fee reimbursements to only the extra width of the roadway. Current policy provides reimbursement for construction of even that portion of the frontage improvements that would normally be required with development.~~

~~A second round of r~~Reductions in the capital projects list is also likely. Several projects on the list would not contribute substantially to mobility on the transportation network in proportion to their

estimated cost. Other listed projects are in areas that are likely to be annexed before county financing is available and would then become the responsibility of the annexing city.

The Transportation Capital Facilities Plan will be reviewed on a regular basis, not to exceed every five years, to ensure that the projected gap between costs and revenues is declining. If the potential shortfall increases and becomes critical, the potential courses of action in addition to those identified above would include reduction in the level of service standards and reassessment of the land use plan.