Very Easy — Ron Swaren

Good for Commuters

Good for Transit

- Provides a route for Vancouver to PDX. Vancouver to 4/1/2020
- Bridge Design can be repeated
  Low Cost — Long Span
  Seismically Safe
- Leaves Room in Navigation areas
- Tunnel plus Willamette Bridge
- Could have east side Bridge
- Positive evaluation from ODOT consultant

~~Two~~ Two Bridges -
Total 10 new lanes

Problems solved til 2050

Portland Transport

A conversation about access & mobility in the Portland-Vancouver region.

Guest Post: Community Transit Doubles Tall Buses After One Year

by **Guest** on September 7, 2012 in **Bus**, **Community Transit**, **Guest Posts** Ron Swaren

This is a guest post from regular contributor Ron Swaren. Anyone who wishes to submit a guest post is welcome to contact the moderators and we will be happy to assist you.

Photograph by Takeshita kenji, courtesy of Wikipedia. Released under the GNU Free Documentation License (CC-BY-3.0). Click on picture for a larger image.

Community Transit of Snohomish County, Wahington (north of Seattle) inaugurated its fleet of 23 "Double-Tall" express buses in March, 2011. The passenger capacity is equivalent to articulated buses (77 seated), but they perform much better in slippery conditions, and can shift weight in the rear axle. The length of 42 feet takes up less road space and was requested by the City of Seattle. Martin Mungia, information director for Community Transit, stated that while the number of passengers is typically about 40, a couple times a week they fill up to 100-110 riders.

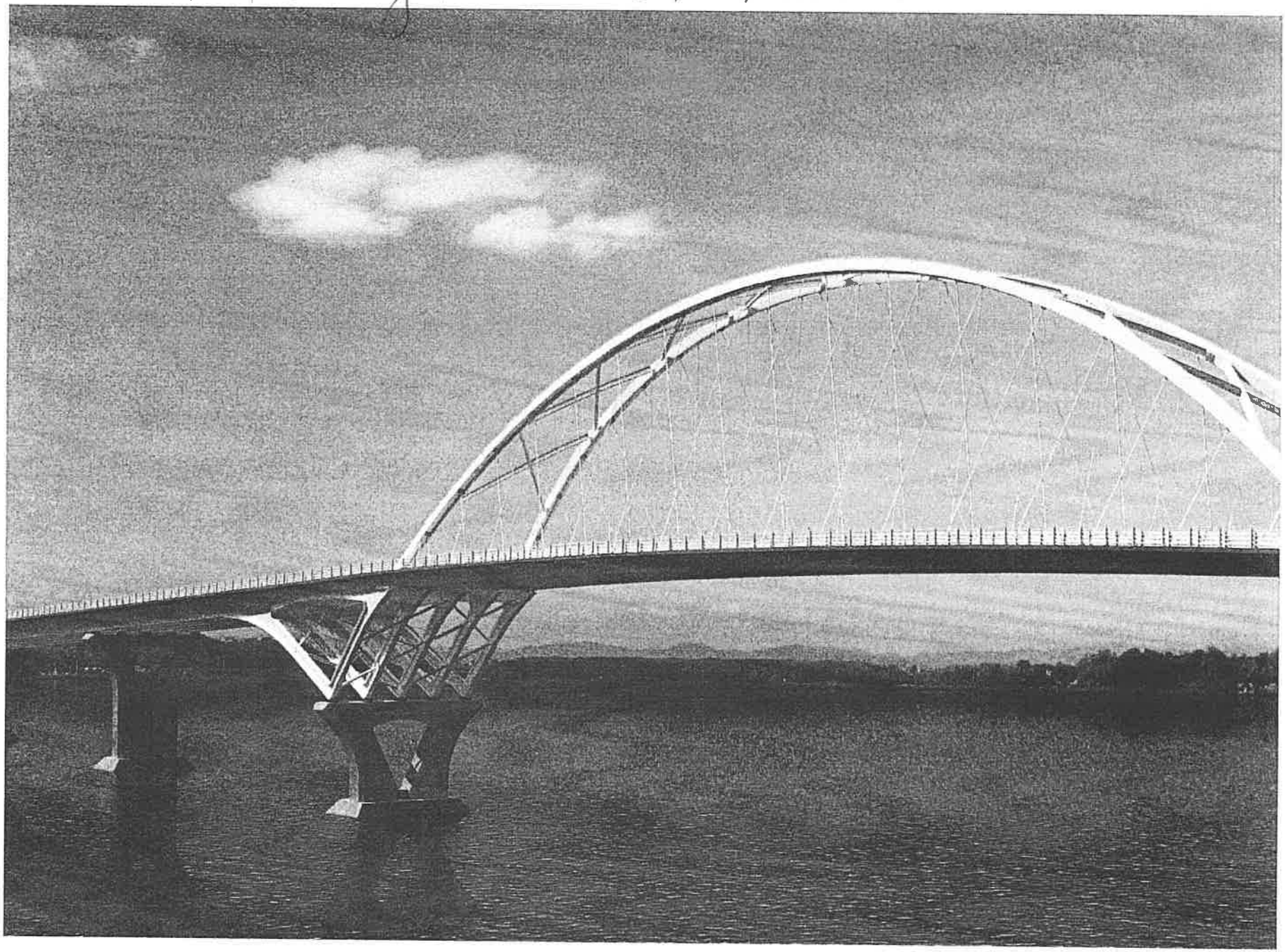
There are two main routes using the double-talls (they are switched to other routes during the day): the 402 to Lynnwood , and the 405 to Edmonds Park and Ride. Technical data on the double-talls is available at this page.

They make one or two stops at Park and Ride lots in the suburban communities, take I-5 into Seattle, and make 5-7 stops downtown. Mr. Mungia also pointed out that the height of the vehicles –approx. 14 feet–provides desirable advertising space that is more visible, thus bringing in more revenue. Community Transit may purchase more vehicles in the future if economic conditions become more favorable. The cost of $850,000 per vehicle was higher than normal buses, but they think these will prove to be good investments over time.

The initial investment of $23 million was 88 percent covered by grants, substantially from WDOT "Regional Mobility Program" and by federal stimulus money. Alexander Dennis Co. based in Scotland, opened an assembly plant in Southern California where final assembly was accomplished, thus qualifying the buses under "Buy America" requirements. Similar vehicles are also being used in Victoria and Kelowna, BC.

The inaugural day of the new routes was covered in this entry at Community Transit's blog.

Lake Champlain New York $75 million



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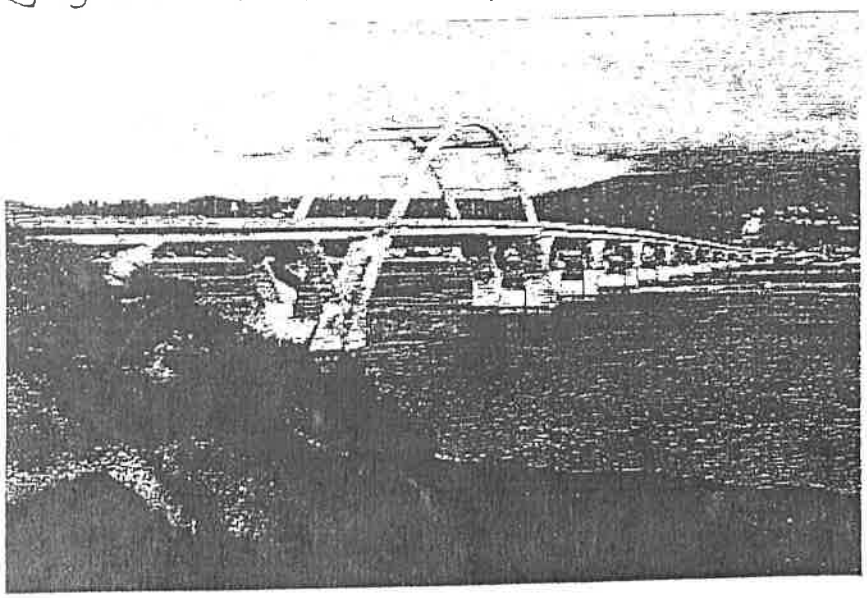
3/25/2017

3300 feet 4 Lanes

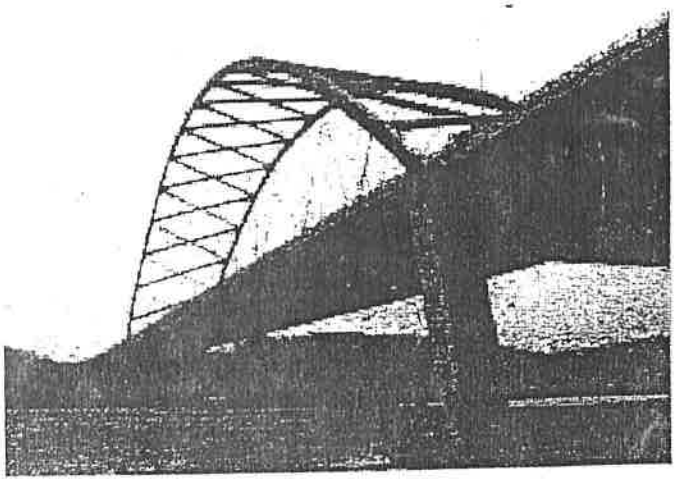
Ron Swaren



Alsea Bay
Waldport Oregon
$43 mil. 1992

4000 ft. 4 lanes

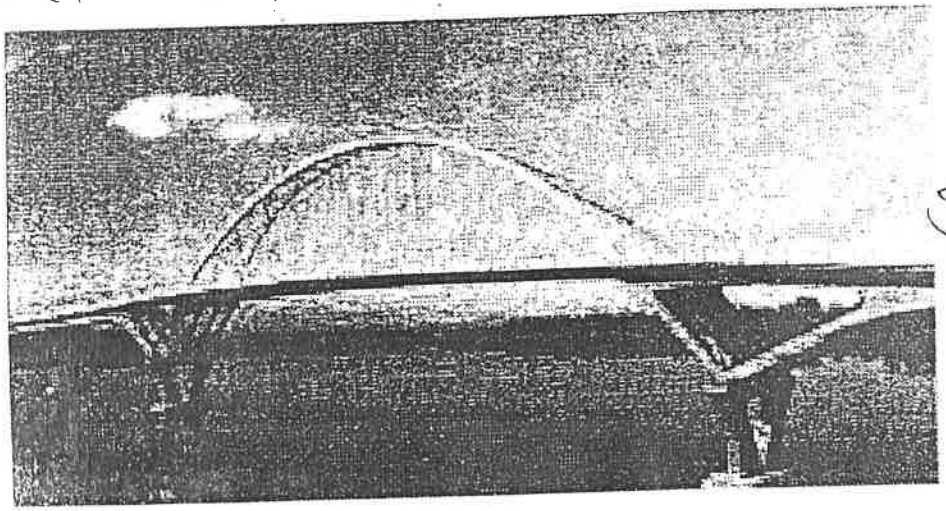
Blenerhasset Isl.



Cincinatti. Ohio
$120 mil 2008

2200 ft. 2 lanes

Lake Champlain
New York

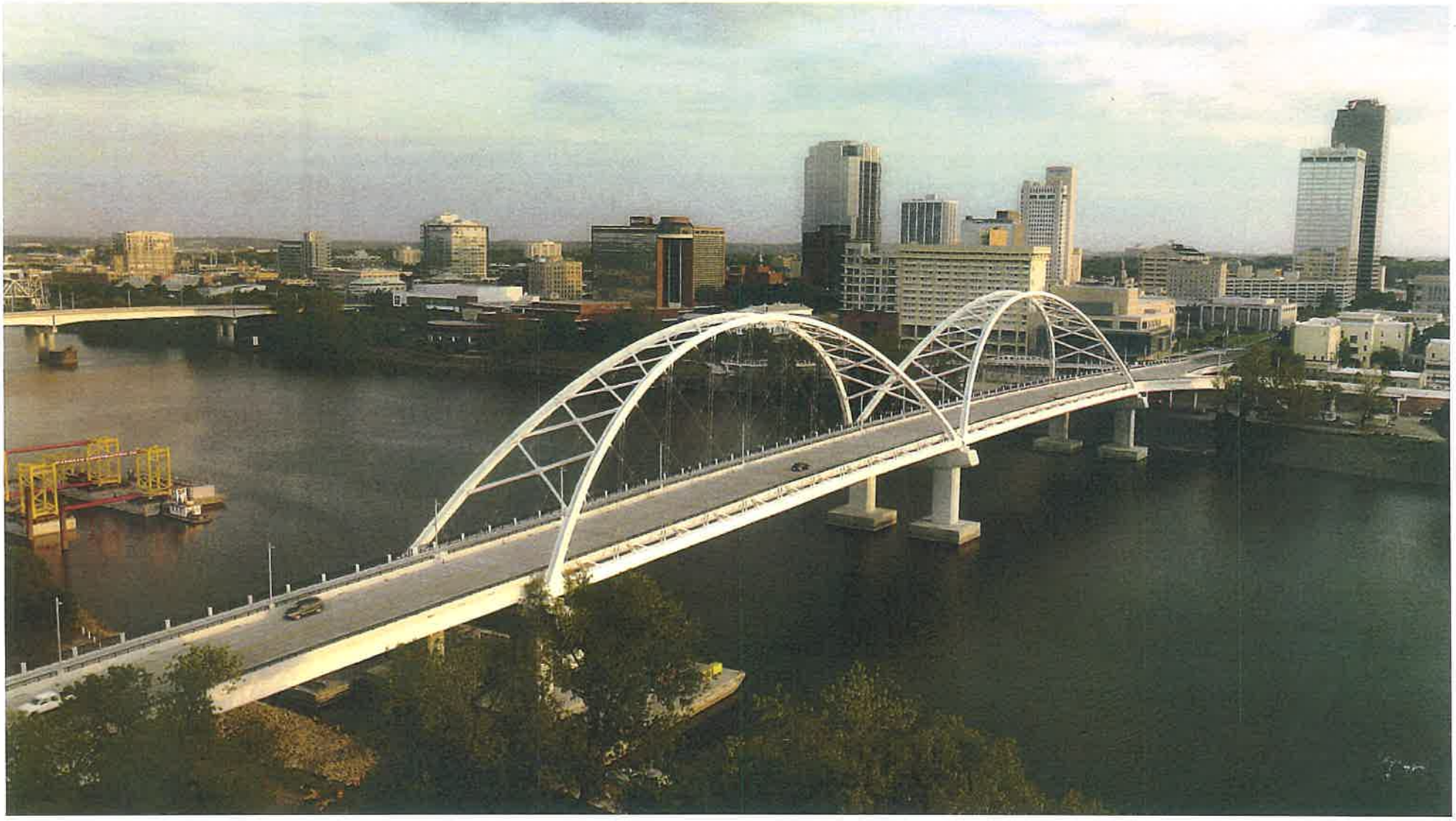


$75 million
2011

Waldport OR

$43 million

Little Rock Arkansas $100 m



Key Takeaways

- **The need for investment:** Future population and employment growth means traffic congestion will more than double. Delays for trucks will quadruple. Without major investments in driving, walking, bicycling and transit, traffic levels will be much worse than today.
- **Transit:** Transit demand will triple by 2055. Increased MAX frequency, more bus and shuttle-type service, faster service and better station access will be needed to meet increased intra-county and inter-county transit demands.
- **Major Roads:** Many arterials will be over capacity by 2055. Widening existing arterials and improving connectivity can improve safety and alleviate some congestion, but cannot meet traffic demands.
- **New Roadways:** North-south roads between the I-5/ Wilsonville area and US 26 and between US 26 and US 30 are expected to be over capacity by 2055. Two roadways were modeled: A limited-access road between Hillsboro and Wilsonville, and a "northern connector" between US 26 and North Portland. Both could significantly reduce traffic on adjacent streets and freeways and improve freight travel, but both have adverse environmental and land-use impacts.
- **Freeways:** Freeways will see the worst congestion. Adding lanes beyond those planned in each direction on I-5, US 26, I-205 and Hwy 217 could help reduce delays if the added lane is for exclusive use by trucks, bus and HOV vehicles. Tolling or other strategies may be needed to see additional benefits.
- **Biking and Walking:** Improving bicycle and pedestrian facilities on all major roads will help meet the increasing demands and safety needs for bikers and walkers. Trails can play an additional role.
- **Smart Technology:** Increased efficiencies of the existing system and measures to reduce demand will continue to be important parts of the transportation solution. Fast changing technology will require ever faster changing policies and analysis.

Next Steps

What happens now?

The County will use results from this Study to prepare for its long-term transportation needs. This may include further study of projects and policies. The County will also continue partnerships with other agencies and jurisdictions to further explore transportation options with a regional focus.

For more information

Visit **WCTransportationFutures.org** to learn more and to read the full Study Report.

Contact us

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Ron Sutton

Washington County
Transportation Futures Study
Exploring options • Informing choices

WASHINGTON COUNTY OREGON

February 2017

Executive Summary

The Washington County Transportation Futures Study evaluated long-term transportation strategies and investments needed to sustain the County's economic health and quality of life for decades to come. Funded by the Oregon Legislature in 2013, the Study assumed the County's Transportation System Plan (TSP) was implemented and looked further into the future, focusing on longer-term land use and transportation challenges and opportunities.

The Study offers insight into transportation needs and comparisons between policy choices on how to meet future travel needs. This is a study, not a plan. It will help decision-makers inform regional, county and local plans and priorities.

Taking Stock

Since the 1970s, Washington County has:

- Become more diverse
- Exceeded growth expectations
- Adopted land use plans consistent with state and regional goals
- Implemented transportation funding strategies
- Expanded roadway, transit, bicycle and pedestrian networks
- Seen decreases in vehicle miles traveled per capita.

The future of Washington County

Population & Employment

The County will be denser with more people per square mile than Portland has today. In 40–50 years, we can expect:

- A 40-55% increase in population. A 40% increase in population is the equivalent of another Hillsboro, Beaverton and Tigard combined.
- Downtown Beaverton, Tanasbourne, Tigard Triangle and other centers will continue to develop into a mix of residential, employment and commercial uses.
- A decline in vehicle miles traveled per person. The number will be less than in 2010.
- A 100-145% increase in employment.
- Employment growth to be focused on Hillsboro, Hwy 217 corridor and southern Washington County.
- More daily trips will be coming into the County than out of the County. The share of daily trips within the County will also increase.

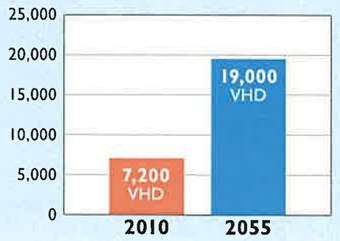
Traffic

More people and more jobs results in more trips. Traffic in 2055 will be worse even with changes in how we travel. We're anticipating:

- Transit, walking and bicycle trips will increase at a faster rate than auto trips. However, a 50% increase in people traveling by vehicle will result in about 3 million vehicle trips per day.
- Increased congestion throughout the day, especially on freeways and at regional access points. None of the Study's transportation options will eliminate or even reduce vehicle delays to today's levels.
- [illegible] major roads which will create more cut-through traffic on local roads.
- Traffic delays will more than double compared to today.
- Delays of freight traffic to increase over four-fold due to more trucks on the road and their dependence on the most congested freeways and roads.
- Improvements in bicycle, pedestrian, transit, highway and roads, smart technology and demand management are needed to meet increased travel demands.

Vehicle Hours of Delay

on Washington County roads during PM Peak Period



Washington County Trend Scenario Package A

What we learned

Three investment packages, three policy directions

The Study analyzed hundreds of transportation investment options and projects to address future travel needs. Options were organized into three packages that represent different policy directions. Each package includes significant investments in roads, transit, bicycling and walking facilities, smart technology and programs to reduce vehicle trips.

- **Package A:** Continuation of current policies and planned investments with additional investments in transit and demand management.
- **Package B:** Extension of current policies, with a focus on improving major roads (arterials).
- **Package C:** Beyond current policies focusing on the regional system by adding capacity on throughways, new roads and new transit facilities.

EXISTING MAJOR ROADS (ARTERIALS)

Widening existing arterials, adding passing lanes, access management, and improving connections between arterials:
- ✓ Can reduce traffic delay by 5%
- ✓ Can improve safety
- ✓ Can shift traffic out of neighborhoods

✓ **New arterial connections** — such as connecting arterials for a route around Cooper Mountain between Roy Rogers and Cornelius Pass roads south of TV Hwy — could reduce traffic on adjacent arterials, such as 175th, up to 20%.

✕ **Cornelius Pass Road** remains the only alternative to US 26/I-405 and I-5 for trips to the airport and I-5 North. Even if it were four lanes, the demand for this route is expected to exceed capacity and increase the need for safety improvements.

✕ **Traffic on arterials** will increase in urban centers. Slower traffic speeds and installing more crossings and sidewalks can promote walkability and improve safety, but would reduce vehicle capacity through these areas.

BIKING AND WALKING

Bicycling and pedestrian trips could double by 2055 as urban areas develop. Planned investments would complete bike/pedestrian improvements on 60% of the County's major roads by 2035.
- ✓ With 100% of County roads complete with bicycle and pedestrian facilities, 80% of households will be within a quarter-mile of bicycle lanes and sidewalks.
- ✕ Increased traffic congestion could make bicyclists and pedestrians feel less safe.
- ✓ "Complete streets" with bike lanes and sidewalks and trails can improve traveler safety.

NEW ROADS

Increased demand is expected on:
- ✓ North-south roads between US 26, 99W and I-5
- ✓ Freight access to the airport and I-5 north
- ✓ East-west routes, especially US 26.

A "**northern connector**" tunneled between US 26 and US 30 with a bridge across the Willamette River to Columbia Blvd would:
- ✓ Attract 60% of the truck traffic on US 26 through the tunnel
- ✓ Reduce traffic on US 26, I-405 and I-5 through Portland
- ✓ Shorten truck trips and improve access to industrial areas and I-5 North
- ✓ Reduce traffic on Cornelius Pass and Germantown roads.

A **limited access road** between US 26 at Hillsboro and I-5/I-205 at Wilsonville would:
- ✓ Reduce future vehicle traffic delay
- ✓ Shift traffic from adjacent roads, such as TV Hwy, Hwy 219 and local roads
- ✓ Allow use of existing roads for farm and local traffic
- ✓ Have higher traffic volume in the urban area than it would outside the Urban Growth Boundary.

Faster speeds on the new roadways would:
- ✓ Attract traffic
- ✕ Increase vehicle trips
- ✕ Increase safety risks.

Construction of new roads would mean:
- ✕ Increased environmental and community impacts
- ✕ Impacts to natural, agricultural and developed communities.

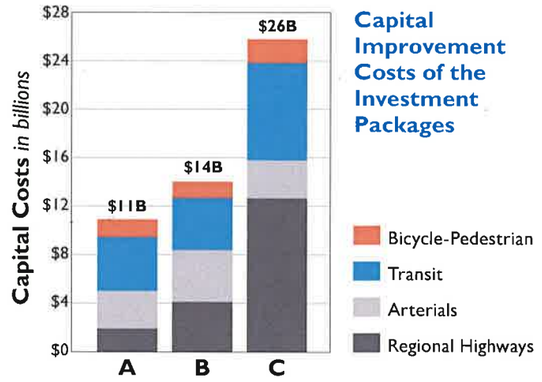
More roads and highways could mean:
- ✕ Increased vehicle use
- ✕ Increased greenhouse gas emissions
- ✓ Improved air quality due to reduced delays.

Relative Costs

The price of the future

The cost of studied investments could range from:
- **$11 billion** to build out the major urban streets with bike lanes and sidewalks on both sides of the street and implement enhanced transit services
- **$14 billion** for enhancing our existing roads
- **$26 billion** to build new roadways, added freeway lanes and transit in exclusive right-of-way.

These investments would cost more than planned resources could fund.



Capital Improvement Costs of the Investment Packages

PROGRAMS TO REDUCE VEHICLE TRIPS

Policies and programs that discourage driving alone and that encourage biking, walking and transit use can:
- ✓ Increase non-auto use by 50% in city centers
- ✓ Reduce the number of vehicles, particularly when congestion is high.

Pricing, either through toll lanes on freeways or new road-user charges, could:
- ✓ Reduce hours traveled by 15% or more, if implemented with higher charges at peak periods.

TRANSIT

Demand for transit in Washington County could almost triple by 2055. Transit trips to Portland will more than double, improving an alternative to the most congested routes. Implementing existing regional service expansion plans is not enough to meet this demand. The following investments can help:
- ✓ Increased bus and light rail service
- ✓ MAX trains running every six minutes or better in the US 26 and the I-5 corridors
- ✓ Faster light rail service and more park and rides, which could increase demand for transit up to 20% between Hillsboro and Portland
- ✓ With planned service improvements, 80% of households will be within a quarter-mile of transit.

✕ Buses will experience the same congestion levels as other vehicles, unless investments that prioritize buses are made.

FREEWAYS

Freeways (I-5, US 26, I-205 and Hwy 217) will see the worst congestion increase. Without improvements, delays will increase throughout most of the day and will result in cut-through traffic.

Adding a lane in each direction on these freeways and managing these lanes for trucks, buses and high-occupancy vehicles (HOV) could:
- ✓ Reduce truck delays up to 50% due to exclusive truck lanes
- ✓ Increase carpooling
- ✕ Result in new lanes filling up, even when limited to HOVs, transit and trucks
- ✕ Require more aggressive management, such as tolling, to create additional travel time savings in the added lanes.

Faster speeds with the added lanes would:
- ✕ Increase the total number of vehicle miles traveled
- ✕ Increase crash risk
- ✕ Contribute to greenhouse gas emissions, unless mitigated by safer and cleaner vehicles.

SMART TECHNOLOGY: SELF-DRIVING CARS?

Smart technology such as self-driving cars could:
- ✓ Allow vehicles to travel more closely together, allowing more cars to use the same road
- ✓ Reduce congestion and crashes and related delays
- ✕ Create more congestion if the number of vehicles on the roads increase.