

Washington County
Transportation Futures Study

Exploring options • Informing choices

STUDY ADVISORY COMMITTEE

March 3, 2016



Study Purpose

“...evaluate the long-term transportation strategies and investments needed to sustain the county’s economic health and quality of life in the coming decades”



Objectives of Meeting

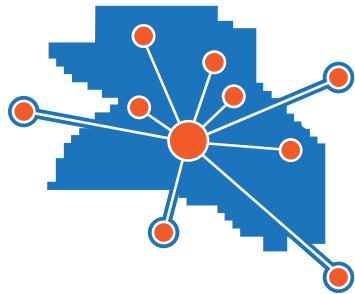
- Review public feedback and final **transportation investment packages** that will move forward for evaluation
- Review and discuss proposed **evaluation framework**, criteria and measures



Agenda

- Welcome and Agenda Review
- **Public Input and Final Transportation Investment Packages**
- Evaluation Framework and Criteria
- **Public Comment**
- Review Study Schedule
- **Next Steps and Closing**





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PUBLIC INPUT AND FINAL TRANSPORTATION INVESTMENT PACKAGES



Purpose of Outreach

To present and solicit input on the future **transportation trends** and types of **investments to study** to meet the economic health and quality of life in Washington County in the coming decades.



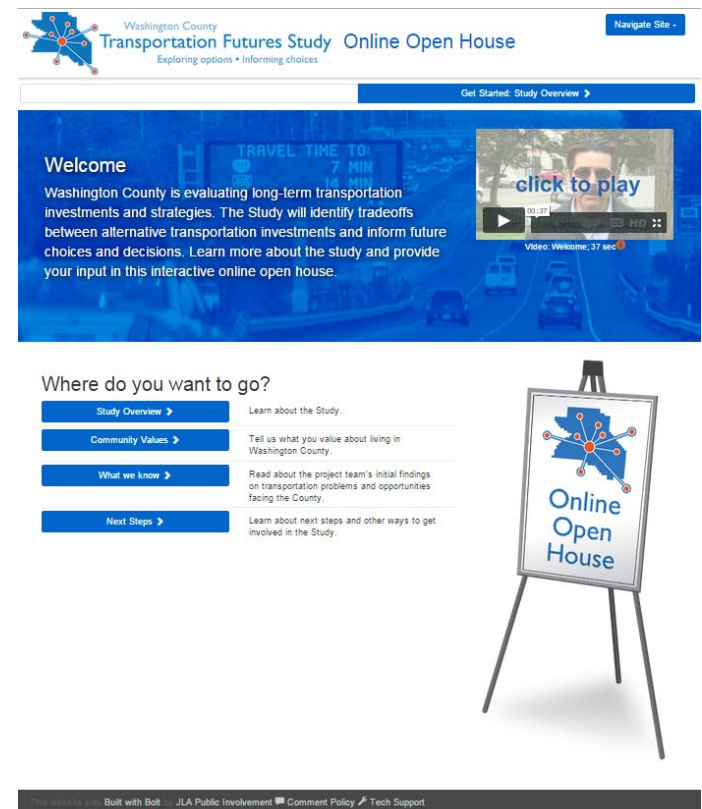
Key Questions for the Public

- What **trends will change the way we live and travel** in 40-50 years?
- Are these the **best transportation investment** ideas to study? Any other ideas?



Outreach Activities

- **Online Open House**
- **Meeting** with stakeholders and organizations
- Targeted outreach to **underserved populations**
- **Media outreach:** social media, email blasts, press releases, web outreach



Online Open House Participation

- **274 surveys** submitted
- **Most live and/or work in** Washington County
- **Most drive alone** and have less than **30 minute** commute



Where do you want to go?

- | | |
|--|--|
| 1 Study Overview ▶ | Learn about the Study and where we are in the process. |
| 2 How could we grow in the next 50 years? ▶ | Learn what our future might look like in the next 40 to 50 years. |
| 3 Transportation Choices and Investment Options ▶ | Provide input on transportation choices and solutions we should study to meet future travel needs. |
| 4 Next Steps ▶ | Learn about next steps and other ways to get involved in the Study. |



Future Trends

Highly- to moderately-
dense urban development centered around transit surrounded by rural, productive, and **protected farmland**.

The population will be **larger, older and more diverse**. To reduce travel costs there will be **more use of transit, bicycling and telecommuting**

There will be more use of transit and denser neighborhoods, but the **need and desire to drive in a car will never go away**. We need to improve roads or face constant gridlock.



Strategies to Reduce Vehicle Trips

- Support for studying many of the proposed ideas, especially active transportation
- Support and concern about pricing strategies

Other Ideas:

- Land use – **walkable** communities and **jobs close to homes**
- Variety of **housing options**
- Expanded **employer-sponsored incentives**



Emerging Technologies to Consider

- Support for studying the presented ideas, especially **electric vehicles, self-driving cars, and Smartphone/app technologies**

Other Ideas:

- Solar-cell paved roads
- Delivery drones
- CNG or hydrogen vehicles
- Electric bicycles



Investments to Improve **Biking and Walking**

- Support for many of the proposed ideas—especially **protected** and **separated** systems, and **more sidewalks**

Other Ideas:

- **Road diets**
- **Comprehensive trail** or multi-use path system
- Under- and over-ground bike/ped **crossings**
- **Education** and bike **registration**



Investments to Improve Transit

- Support for many of the proposed ideas—especially **express and high capacity** options

Other Ideas:

- **Transit plans**
- **Combine bike** and transit
- Better **local bus** service
- **Last-mile** connections
- More **park and rides**

** Plus many ideas to serve specific destinations*



Investments to Improve Freight

- Support for **expanding capacity on throughways** to handle freight.
- Livability concerns about **increased freight on local/urban roadways**.

Other Ideas:

- Increased use of **freight rail**
- **Drone** deliveries
- **Reduce large trucks** in urban areas
- Encourage **non-peak travel**



Investments to Improve **Major Roads**

- Both concern and support for **road widenings**
 - Support: need to find ways to alleviate traffic
 - Concern: livability and farmland impacts
- Support for **Around the Mountain Concept**

Other Ideas:

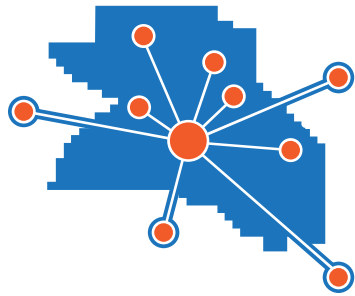
- Build upper deck on Hwy 217
- Bypass/improvements around **TV Hwy**
- Connect Hillsboro to Yamhill County by **expanding Hwy 47**



Investments to Improve Travel on Throughways

- Both concern and support for **new limited access road between Hillsboro, Sherwood and I-5/I-205 and Extension to Hwy 30**
 - Support: helps alleviate traffic
 - Concern: livability and farmland impacts; and would increase traffic and driving
- New ideas suggested to address the Sunset Tunnel bottleneck and **find new ways to get to Portland and Vancouver**





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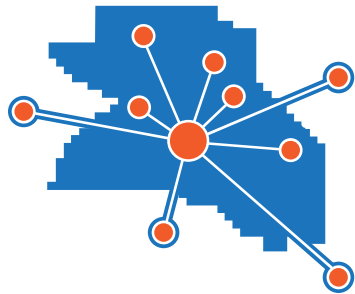
TRANSPORTATION INVESTMENT PACKAGES



INVESTMENT PACKAGES INCLUDE:

- Emerging technologies
- Strategies to reduce vehicle trips
- System management strategies
- Connected and protected biking and walking facilities
- Enhanced transit services and connections
- Added capacity to major streets and roads
- Added capacity to throughways
- Freight system improvements





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EVALUATING INVESTMENT PACKAGES

March 3, 2016

Presentation to the SAC



Evaluation Topics

Location in *Evaluation
Framework Report*, Feb 19

- Evaluation Framework, Principles
- Evaluation Criteria
- Measurements

Pages 1 - 9

Pages 9 - 25



Evaluation Framework, Concept

Page 2, Exhibit 1

Categories
of Things
People Care
About

= Effects,
Impacts,
Evaluation
Criteria

Choices

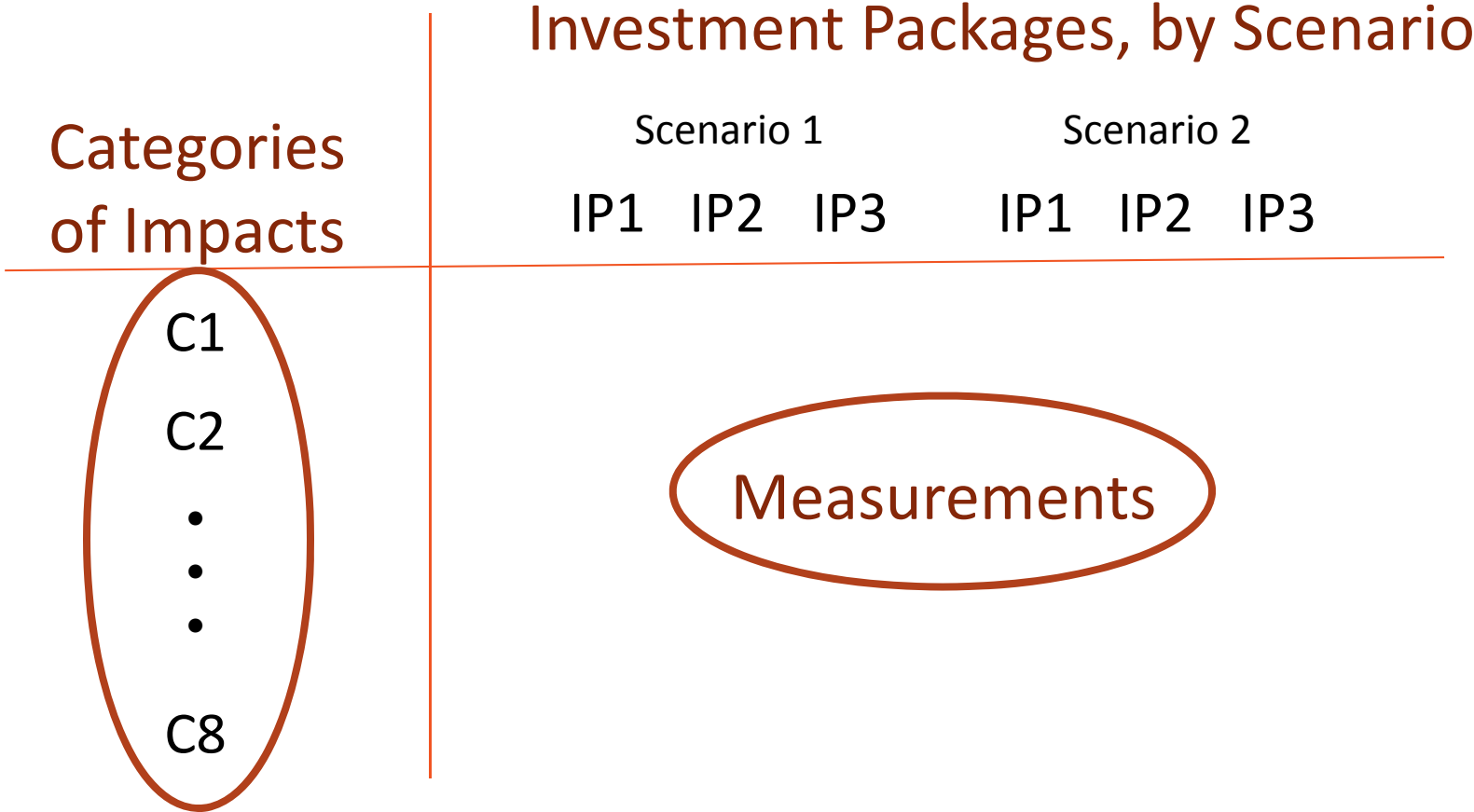
= Alternatives, Options, Futures,
Scenarios, Plans, Policies, Actions....

Facts and Interpretation

= Data, Measures,
Performance
Measurements, Analysis



Evaluation Framework, WCTFS



Key Evaluation Principles

Pages 2 – 3, 6 – 9

- Comprehensive and Mutually Exclusive
- Practical Measurement
- Consolidation
- Weighting



Categories of Impacts

Pages 5 - 8, Exhibit 2

- **Primary Impacts** (Transportation Performance)
 - Safety
 - Mobility and Accessibility
 - Reliability
 - Cost
- **Secondary Impacts**
 - Environment
 - Land Use and Community
 - Health
- **Distribution of Impacts**
 - Equity (income and mode)



Distribution of Impacts

Page 10

Potential Segmentation of Measures

- By county v. regional/out-of-county
- By sub-area/community
- By income
- By mode
- By cut line or facility
- By roadway classification
- By trip purpose
- By time of day



Safety

Page 10

Measurements Recommended in the Report

- **Locations of crash-inducing conflicts [vehicle]**
- **Locations of crash-inducing conflicts [pedestrian and bicycle]**
- **Risk of crash fatality**



Safety

Page 10

Measurements Revised Based on CPG Input

- **Locations of crash-inducing conflicts [vehicle and pedestrian and bicycle]:** Percentage of high-risk areas addressed by investment packages
- ~~Exposure to unsafe facilities [pedestrian and bicycle]~~
- **Risk of crash fatality:** VMT traveling along major roads with posted speeds over 40 mph
- **Overall exposure to vehicle crash:** Change in crash rates based on VMT by roadway type



Mobility and Accessibility

Page 12

Measurements Recommended in the Report

- **Reductions in time spent traveling**
- **Accessibility via transit**
- **Accessibility via bicycle**
- **Employer access to the labor force**



Mobility and Accessibility

Page 12

Measurements Revised Based on CPG Input

- **Reductions in time spent traveling:** travel-time benefits for all trips
- **Accessibility via transit:** coverage of the transit system
- **Accessibility via bicycle:** coverage and completeness of the bicycle network
- **Road network completeness (redundancy)**
- **Employer access to the labor force:** number of workers within reasonable vehicle or transit commute of employment areas



Reliability

Page 14

Measurements Recommended in Report (no change based on CPG input)

- **Roadway travel-time reliability:** Travel-speed variation for trips on key facilities
- **Transit reliability:** Transit demand-to-capacity ratio for transit during peak PM
- **Freight trip reliability:** Number of hours during the day in which demand-to-capacity ratios for select facilities support freight planning



Cost

Page 16

Measurements Recommended in Report (no change based on CPG input)

- **Cost of building facilities:** Annualized Capital Cost (constant 2016 dollars)
- **Cost of operations and maintenance:** Average Annual Operating Costs as a percentage of regional personal income



Environmental Sustainability

Page 17

Measurements Recommended in the Report

- **Contribution to climate change**
- **Stormwater impacts**
- **Efficient vehicle use**



Environmental Sustainability

Page 17

Measurements Revised Based on CPG Input

- **Contribution to climate change:** Green House Gas (GHG) Emissions (function of VMT)
- ~~Stormwater~~
- **Impacts on local natural resources:** Impacts on critical habitat, riparian areas, and wetlands
- **Efficient vehicle use:** PMT as a portion of VMT



Land Use and Community

Page 18

Measurements Recommended in the Report

- **Cut-through traffic**
- **Alignment of transportation investments with local land use plans and policies**



Land Use and Community

Page 18

Measurements Revised Based on CPG Input

• ~~Cut-through traffic~~

• **Alignment of transportation investments with ~~local land use plans and~~ key local policies and objectives.**

- Cut-through traffic
- Road functional class (urban, rural, local, regional)
- Agriculture preservation
- Walkable urban areas (mode split)
- Induced vehicle trips
- Rural Reserves



Health

Page 19

Measurements Recommended in the Report

- **Local air quality**
- **Active transportation**



Health

Page 19

Measurements Revised Based on CPG Input

- **Local air quality:** particulate matter emissions (function of VMT)
- **Active transportation:**
 - Non-auto mode share of all trips
 - Number of trips three miles or less (potential for active transportation)
 - Minutes of bike/ped activity



Equity

Page 20

Measurements Recommended in the Report

- **Travel-time benefits (low-income v. high-income)**
- **Travel-speed variation (low-income v. high-income)**
- **Travel-time benefits (non-auto v. auto)**
- **Demand-capacity ratio for transit**



Equity

Page 20

Description Revised Based on CPG Input

This category will report results for *low-income* communities relative to high-income communities and community average for measures of:

- **Safety**
- **Mobility and Accessibility**
- **Reliability**
- **Land Use and Community**
- **Environmental Sustainability**
- **Health**



Measure Example

Safety Measures	Scenario 1: Assumed Future			Scenario 2: A Rising Economic Tide		
	1	2	3	1	2	3
Package						
Percentage of high-risk areas addressed by investment packages						
VMT traveling along major roads with posted speeds over 40 mph						
Change in crash rates based on VMT by roadway type						



Segmentation Example

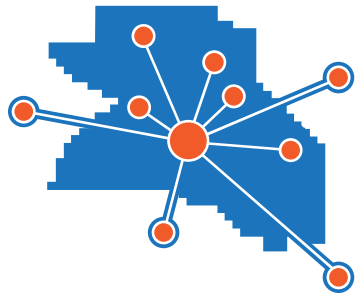
Safety Measure # 1	Scenario 1: Assumed Future			Scenario 2: A Rising Economic Tide		
Package	1	2	3	1	2	3
County-wide Value						
Income						
- TAZs (<\$25k)						
- TAZs (\$25k-\$50k)						
- TAZs (\$50k-\$100k)						
- TAZs (\$100k-\$150k)						
- TAZs (\$150k+)						
Sub-area						
- TAZ combo 1 (north)						
- TAZ combo 2 (south)						
- TAZ combo 3 (east)						
- TAZ combo 4 (west)						
Roadway Classification						
- Highway/Interstate						
- Principal Arterial						
- Minor Arterial						
- Major Collector						
- Minor Collector						
- Local						



Input from SAC

- Categories of impacts
- Segmentation
- Specific measures by category



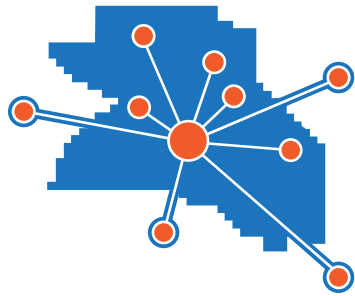


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PUBLIC COMMENT





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NEXT STEPS



Proposed 2016 Schedule

Date	Meeting Topics
May/June 2016	<ul style="list-style-type: none">• Update on Rural Taking Stock• Transportation 101
Aug/Sep 2016	<ul style="list-style-type: none">• Review preliminary draft of WCTFS report
October 2016	<ul style="list-style-type: none">• Review draft final WCTFS report• Review online open house materials
Oct/Nov 2016	Public Outreach and Online Open House
December 2016	<ul style="list-style-type: none">• Review public comments on WCTFS Report• Provide final input to draft final Report



Thank you!

Study Contact Information

www.WCTransportationFutures.org

Department of Land Use and Transportation

503-846-4530



Transportation Futures Study

