

Why we live here



More people are calling this home

Everett
74%
population
growth

Seattle
28%
population
growth

Bellevue
33%
population
growth

Tacoma
60%
population
growth

Projected population
growth by 2040

Source: Puget Sound Regional Council

The cost of congestion

2011

48 hours

stuck in traffic



2035

66 hours

stuck in traffic



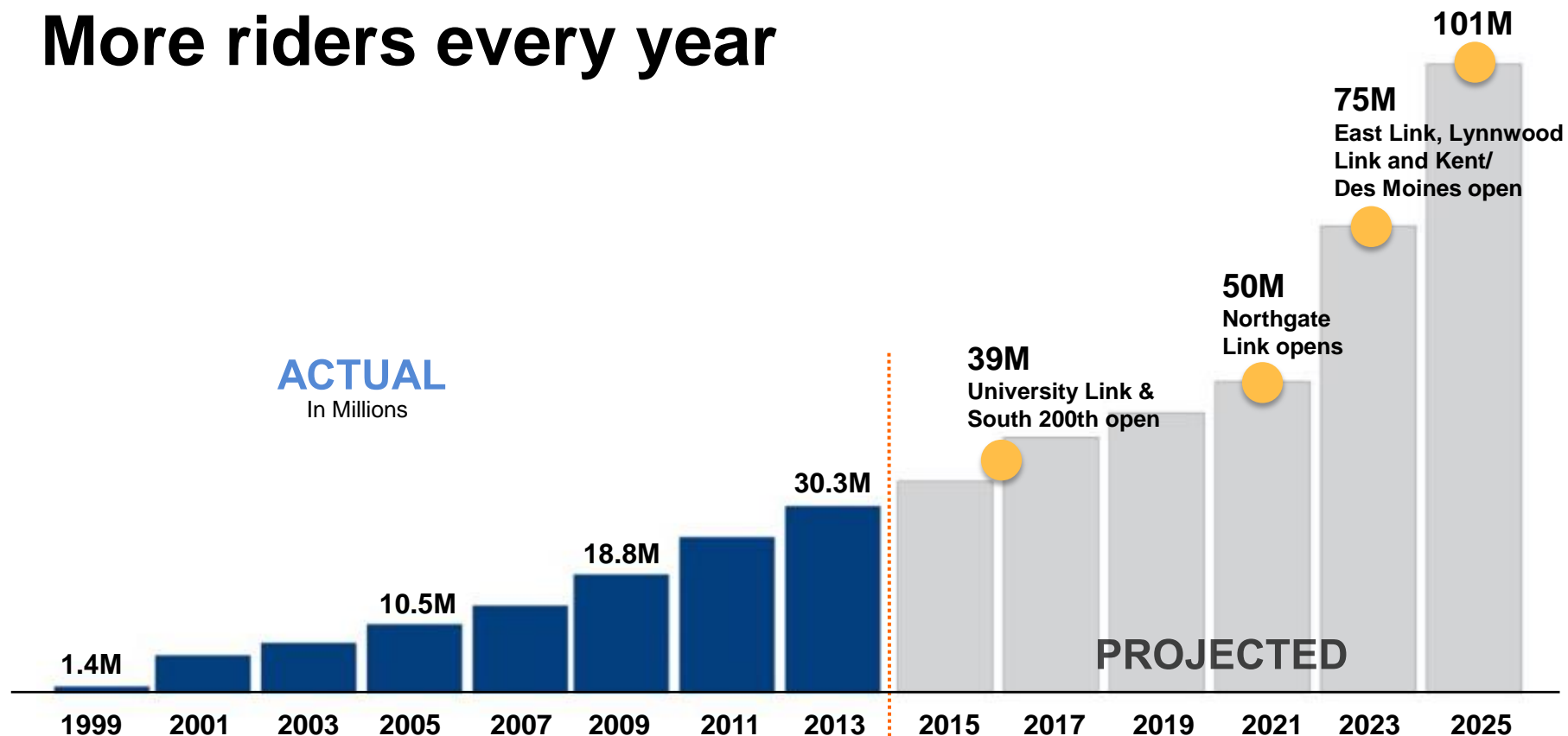
Building more roads?

Keeping current roads in good repair:

\$80 billion

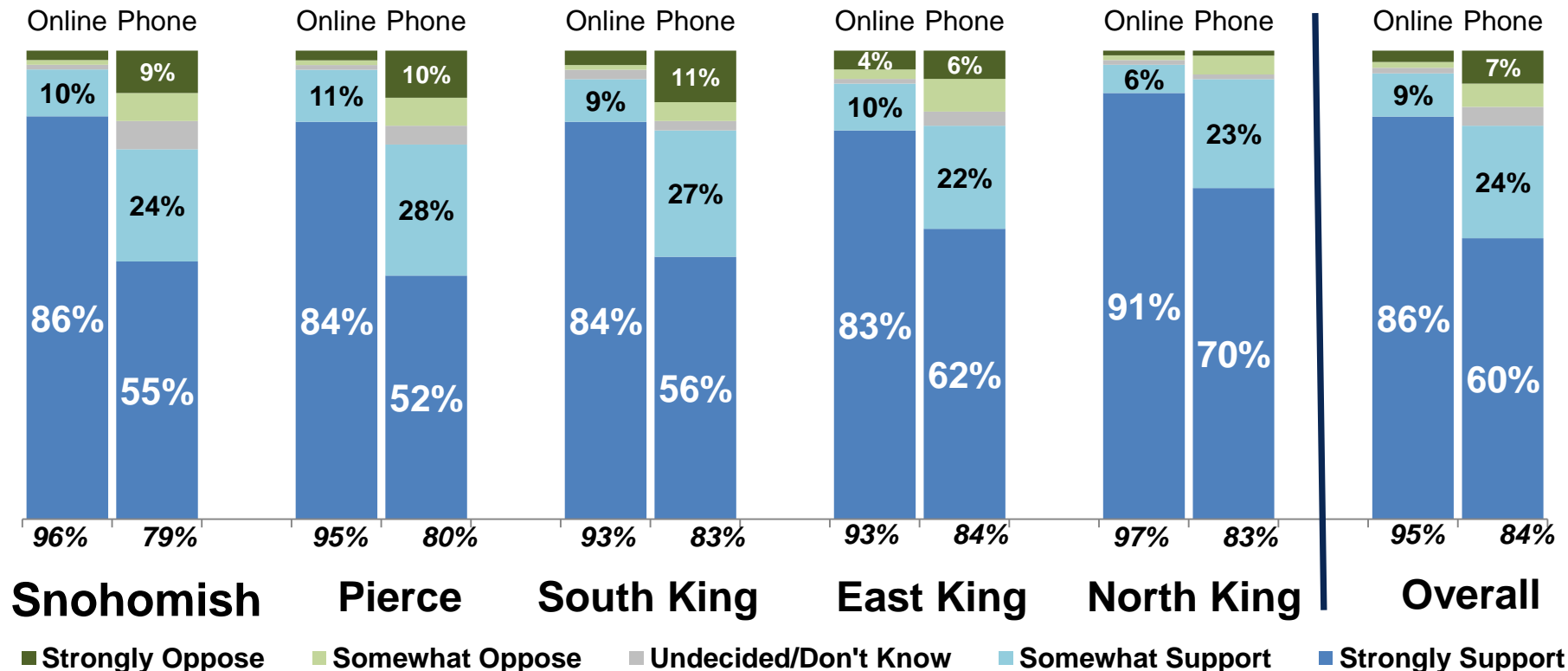
over next 30 years

More riders every year



Source: Sound Transit ridership reports, service implementation plan and financial plan.

Surveys: Broad support for expanding transit



Note: Spring 2014 phone survey was statistically-valid; Summer 2014 online survey was voluntary/self-select during Draft SEIS comment period



Developing Sound Transit's New System Plan: Core Priorities

Sound Transit Board
January 22, 2015

 **SOUNDTRANSIT**

Long-Range Plan Update

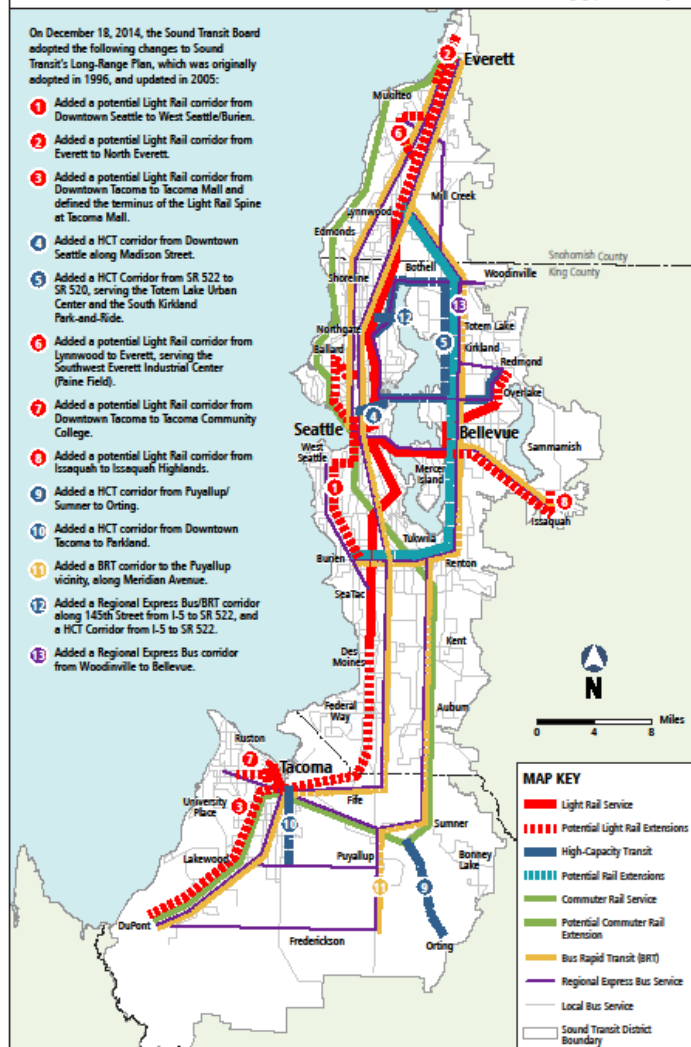
- Adopted by the Board December 18, 2014
 - 13 changes to the LRP map
 - Update to Plan document

2014 LONG-RANGE PLAN



On December 18, 2014, the Sound Transit Board adopted the following changes to Sound Transit's Long-Range Plan, which was originally adopted in 1996, and updated in 2005:

- Added a potential Light Rail corridor from Downtown Seattle to West Seattle/Burien.
- Added a potential Light Rail corridor from Everett to North Everett.
- Added a potential Light Rail corridor from Downtown Tacoma to Tacoma Mall and defined the terminus of the Light Rail Spine at Tacoma Mall.
- Added a HCT corridor from Downtown Seattle along Madison Street.
- Added a HCT Corridor from SR 522 to SR 520, serving the Totem Lake Urban Center and the South Kirkland Park-and-Ride.
- Added a potential Light Rail corridor from Lynnwood to Everett, serving the Southwest Everett Industrial Center (Paine Field).
- Added a potential Light Rail corridor from Downtown Tacoma to Tacoma Community College.
- Added a potential Light Rail corridor from Issaquah to Issaquah Highlands.
- Added a HCT corridor from Puyallup/Sumner to Orting.
- Added a HCT corridor from Downtown Tacoma to Parkland.
- Added a BRT corridor to the Puyallup vicinity, along Meridian Avenue.
- Added a Regional Express Bus/BRT corridor along 145th Street from I-5 to SR 522, and a HCT Corridor from I-5 to SR 522.
- Added a Regional Express Bus corridor from Woodinville to Bellevue.



System Plan (ST3) Timeline

2015

Develop System
Plan Core Priorities

Jan. – Feb. 2015



Develop Methodology
and Initial Evaluation
Measures

Feb. – Mar. 2015

Develop and Evaluate
Conceptual System
Expansion Scenarios

Apr. – May 2015

Develop Priority
Projects List

June – July 2015

Public Involvement

Detailed Testing and
Evaluation of Priority
Projects List

July – Dec. 2015

2016

Develop Draft
System Plan

Jan – Mar. 2016

Public Involvement

Final System
Plan Development

Apr. – May 2016

Adopt System Plan

June 2016

Possible Public Vote
on System Plan

Nov. 2016

Core Priorities for System Plan Development and Evaluation

- Core Priorities developed, in part, from public input received during the LRP update process:
 - Ridership
 - Completing the Link light rail Spine
 - Connecting the region's designated centers with HCT; Supporting TOD
 - Socio-economic equity
 - Integration with other transit operators/transportation systems
 - Multi-modal access

How Core Priorities Guide the ST3 Process in 2015

CORE PRIORITIES



Conceptual System Expansion **Scenarios**



Scenario Evaluation Measures Based on Core Priorities



Initial Project Evaluation Measures Based on Core Priorities and **Scenario** Evaluation



Development of Priority Projects List



Project Templates



Detailed **Project** Testing & Evaluation

System Planning Trade-offs

- Planning for the Core Priorities will present trade - offs for the Board to consider

Examples:

- Areas of socio-economic diversity may extend beyond areas of density
 - Maximizing HCT ridership will vary with the degree of multi-modal integration
- Core Priorities and Conceptual System Expansion Scenarios will establish framework for advancing Priority Projects

Ridership

Why is this a Core Priority?

- It's positively correlated to so many other benefits, such as:
 - Mode share
 - Energy consumption
 - Greenhouse gas reduction*
 - VMT reduction*
 - Cost-effectiveness of the transit investment
 - Transit/Land Use relationship
- Higher ridership implies better performance: **Speed, Reliability, Frequency & Capacity**

How will we measure this Core Priority?

- Transit mode share
- HCT Ridership

Completing the Light Rail Spine

Why is this a Core Priority?

- Included in the Long-Range Plan as a priority for investment
- A shared, regional goal

How we will measure this Core Priority?

- Progress towards connecting:
 - Redmond,
 - North Everett, and
 - Tacoma Mall

Connecting Designated Centers / TOD

Why is this a Core Priority?

- Included in the Long-Range Plan update
- Connecting the central Puget Sound's designated centers is a regional goal*
- Designated Regional Growth Centers not served by the Spine also should be supported*

How we will measure this Core Priority?

- Percentage of designated centers served by HCT
- Population and employment in proximity to HCT stations

*2014 text amendments to the LRP

Socio-economic equity

Why is this a Core Priority?

- Included in the Long-Range Plan update, a regional goal
- Support economic development efforts*
- Encourage creation of housing options*

How we will measure this Core Priority?

- Percentage of minority and low-income populations in proximity to HCT stations*

*2014 text amendments to the LRP

Integrate the HCT System/Lower O&M Costs

Why is this a Core Priority?

- Included in the Long-Range Plan update, a regional goal

How we will measure this Core Priority?

- Transit travel time
- Transit Coverage: Increase in locations accessible within half hour
- Efficiency dividend (service hours saved)
- O&M cost per trip/boarding/passenger mile

Emphasis on Multimodal Access

Why is this a Core Priority?


- Included in the Long-Range Plan update, a regional goal
- Fully Implements Sound Transit's Access Policy

How we will measure this Core Priority?

- Ridership
- Percentage of transit access by all modes*

Next Steps

- Confirm **Core Priorities**
 - Refine as needed throughout first-half of 2015
- Begin development of Conceptual System Expansion Scenarios, emphasizing Core Priorities
 - Present Conceptual System Expansion Scenarios for Board consideration
- Begin development of evaluation measures for the Conceptual System Expansion Scenarios
- More detailed schedule will be reviewed with Board in February

A low-angle shot of a white and teal Sound Transit train. The train has large windows and a teal stripe running along its side. The Sound Transit logo, a stylized 'S' and 'T' inside a teal shape, is visible on the side of the train. The background shows a station platform with a glass roof.

Core Priorities for a New ST System Plan

Sound Transit Board
February 26, 2015

 **SOUNDTRANSIT**

Core Priorities for a New ST System

- Core Priorities and Related Measures:
 - Completing the Link light rail Spine
 - Miles of LRT included
 - Ridership
 - Daily HCT boardings
 - Connecting the region's designated centers with HCT; Supporting TOD
 - Percentage of designated centers served by HCT
 - Population/employment within ½-mile of HCT stations

Core Priorities for a New ST System

- Core Priorities and Related Measures:
 - Socio-economic equity
 - Minority and low-income populations within ½-mile of HCT stations
 - Integration with other transit operators/transportation systems
 - Reduction in transit travel time
 - Multi-modal access
 - Percentage of transit access, by all modes

How Core Priorities Guide the ST3 Process in 2015

CORE PRIORITIES



Conceptual System Expansion **Scenarios**



Scenario Evaluation Measures Based on Core Priorities



Initial Project Evaluation Measures Based on Core Priorities and **Scenario** Evaluation



Development of Priority Projects List




Project Templates



Detailed **Project** Testing & Evaluation

Next Steps

- Begin development of Conceptual System Expansion Scenarios, emphasizing Core Priorities
 - Present Conceptual System Expansion Scenarios for Board consideration
- Refine **Core Priorities** and related evaluation measures, as needed throughout first-half of 2015
- Begin development of evaluation measures for the Conceptual System Expansion Scenarios



Sound Transit's New System Plan:

Technical Methodologies and Conceptual System Expansion Scenarios

March 2015

SOUNDTRANSIT

System Plan (ST3) Timeline

2015

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Plan Core Priorities**

Jan. – Feb. 2015

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and Initial Evaluation
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Feb. – Mar. 2015



**Develop and Evaluate
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RCW 81.104 (2)c Places Requirements on ST's System Planning

“Analysis methods:

*The local transit agency shall develop reports describing the analysis and assumptions for the estimation of **capital costs**, **operating and maintenance costs**, methods for **travel forecasting**, a **financial plan** and an **evaluation methodology**.”*

Key Methodologies for System Plan Development

Capital Cost Estimating Methodology:

- Generate reasonable cost estimates for delivering proposed projects
- Include appropriate design allowances and contingencies
- Use Sound Transit experience in delivering similar types of projects

Operating and Maintenance Cost Estimating Methodology:

- Generate reasonable estimates of the annual cost of operating proposed transit services
- Driven by system characteristics and Sound Transit operating cost experience (or based on peer systems)

Key Methodologies for System Plan Development

Transit Ridership Forecasting Methodology:

- Generate reasonable estimates of transit ridership and of transit service characteristics
- Examines proposed future changes in land use and non-transit transportation conditions,
- Incremental changes in the transit level of service and user costs (e.g., fares)

Evaluation Methodology:

- Describes how core priorities will be used to develop conceptual scenarios, priority project lists, and development the overall system plan

Key Methodologies for System Plan Development

Financial Modeling Methodology:

- Detail sources and uses of funds within financial plan
- Describe methodology for forecasting key financial inputs (e.g., future tax revenues)
- Document key financial planning assumptions (e.g., assumed borrowing rate).

RCW 81.104.080 Requires Coordination with *Vision 2040*

*“Regional high capacity transportation plans shall be included in the **designated regional transportation planning organization's regional transportation plan** review and update process to facilitate development of a coordinated multimodal transportation system and to meet federal funding requirements...”*

- PSRC administrative procedures require that they conduct a Benefit-Cost Analysis for transit projects with a cost greater than \$100 million.

Key Methodologies for System Plan Development

Benefit-Cost Analysis Methodology:

Comparison of quantifiable benefits and costs that can reasonably be expected to occur from the implementation of a system of HCT rail investments.

Benefits:

- Transit user time savings and mobility benefits for non-transit users
- Auto operating and ownership cost savings; Accident reduction and safety benefit; Parking cost savings; Environmental benefits

Costs:

- Capital expenditures; Annual operating and maintenance costs; Periodic rehabilitation and replacement costs.

Core Priorities for System Plan Development and Evaluation

- **Completing the Link light rail Spine**
- Ridership
- Connecting the region's designated centers with HCT
- Promoting transit friendly land use and supporting TOD
- Advancing "Logical Next Steps" projects beyond the Spine; within financial capacity
- Socio-economic equity
- Integration with other transit operators/transportation systems
- Multi-modal access

System Planning Process in 2015

CORE PRIORITIES



→ **CONCEPTUAL SYSTEM EXPANSION SCENARIOS** ←



→ **Scenario Evaluation Measures Based on Core Priorities** ←



Initial Project Evaluation Measures Based on Core Priorities and Scenario Evaluation



Development of Priority Projects List



Project Templates



Detailed Project Testing & Evaluation

RCW 81.104.100 (2)b Requires HCT Options

“A do-nothing option and a low capital option that maximizes the current system shall be developed. Several higher capital options that consider a range of capital expenditures for several candidate technologies shall be developed.”

Conceptual Scenarios: Technologies (Modes)

Link light rail



Bus Rapid Transit



Rapid Streetcar



Conceptual System Expansion Scenarios

Trade-offs:

Length

Fewer Miles

More Miles

Alignment

Less Developed Areas

More Developed Areas

Profile

At-grade, Shared Lanes

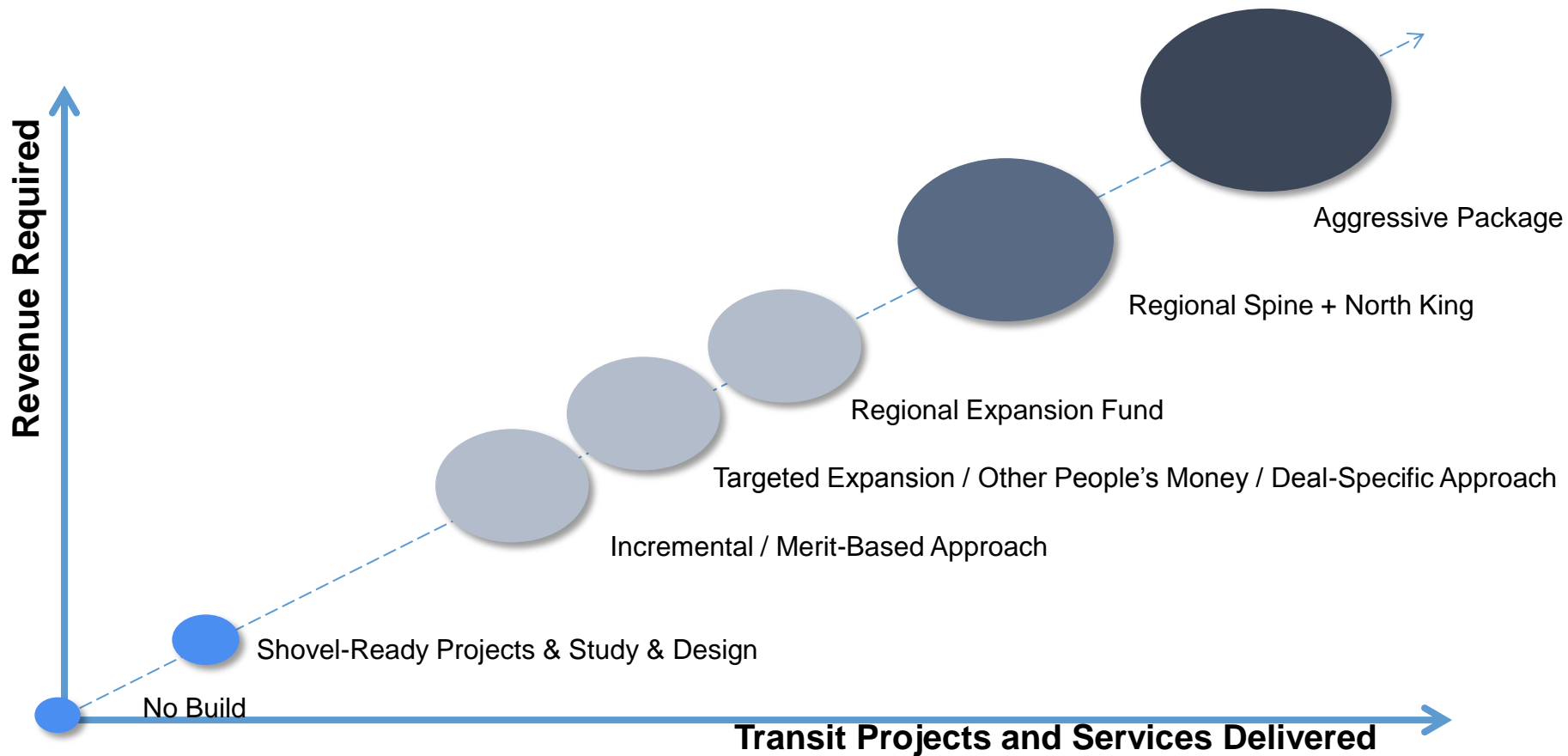
Exclusive (Aerial/Tunnel)

Supporting Projects

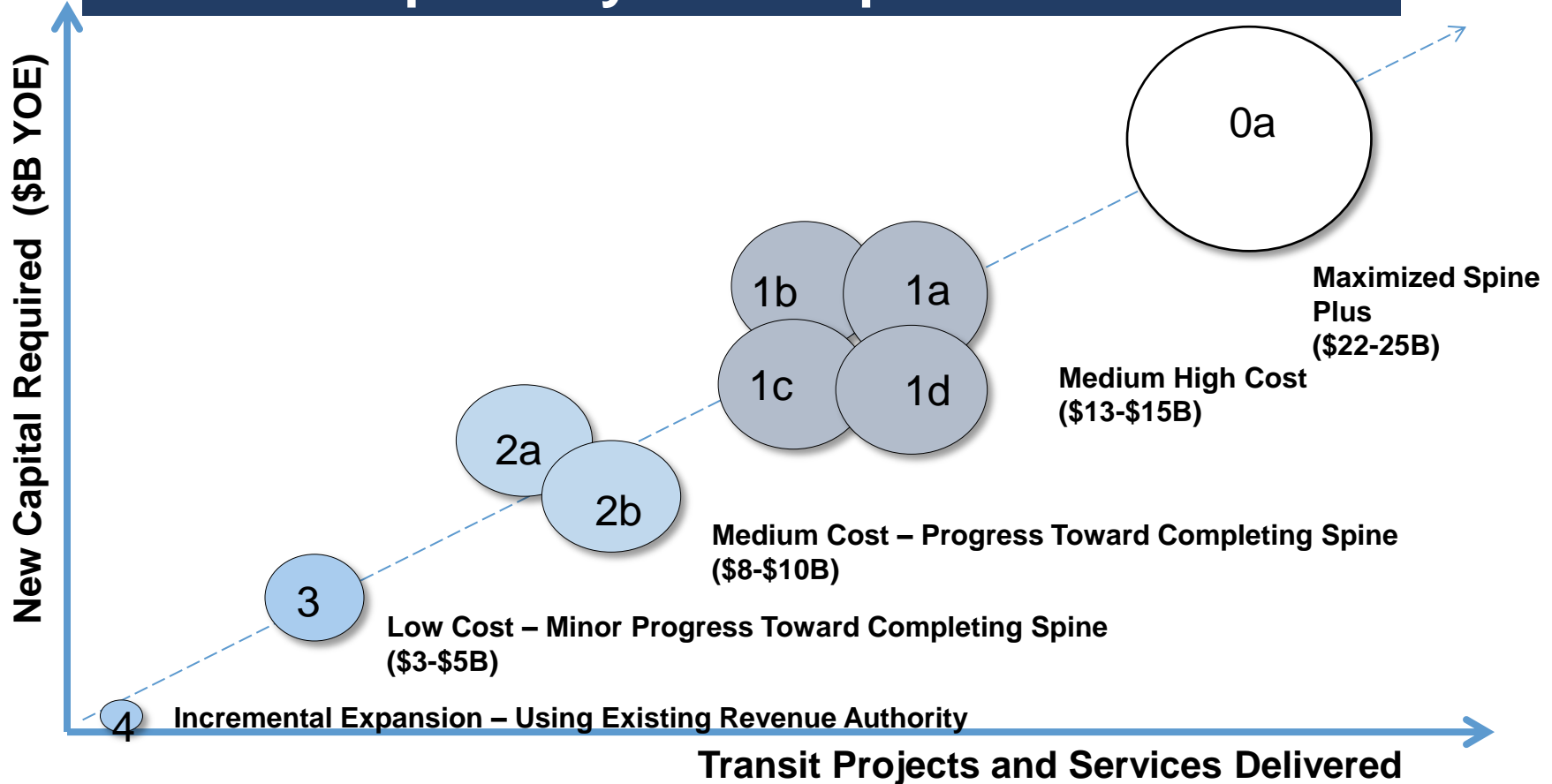
Fewer

More

Early ST3 Scope and Revenue Discussions

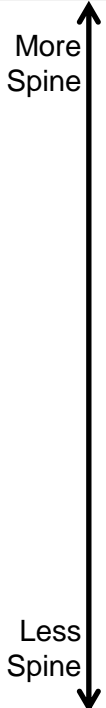


ST3 Conceptual System Expansion Scenarios



Conceptual System Expansion Scenarios

Summary

- 
- Maximized Spine Plus
 - Maximized Spine
 - More Connections, Most of Spine
 - More Connections, Less Spine
 - Modest Spine Extension with focused Investments in Denser Areas
 - Medium Cost --- Progress toward Completing Spine
 - Medium Cost --- Some Progress toward Completing Spine
 - Low Cost --- Minor Progress toward Completing Spine
 - Incremental Expansion --- Using Existing Revenue Authority

Upcoming Activities

- Continue development of the Conceptual System Expansion Scenarios
- Begin analysis of Conceptual Scenarios
- Prepare for presenting the Key Methodologies to the State's Expert Review Panel
- Priority Project List
- Identify Board Workshop opportunities



Draft Conceptual System Expansion Scenarios

April 2015

 **SOUNDTRANSIT**

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Nov. 2016

Core Priorities For ST3 System Plan Development

COMPLETING THE LINK LIGHT RAIL SPINE



RIDERSHIP



CONNECTING THE REGION'S DESIGNATED CENTERS WITH HCT



SOCIO-ECONOMIC EQUITY



INTEGRATION WITH OTHER TRANSIT OPERATORS/ TRANSPORTATION SYSTEMS



MULTI-MODAL ACCESS



PROMOTING TRANSIT SUPPORTIVE LAND USE AND TOD



ADVANCING "LOGICAL NEXT STEPS" PROJECTS BEYOND THE SPINE; WITHIN FINANCIAL CAPACITY




Purpose of the Conceptual System Expansion Scenarios

- High level overview of possible corridor investments from HCT studies
- State Law requires examination of small and large capital options
- Tool to analyze trade-offs
- **NOT** a specific System Plan
- Doesn't include all possible projects that could be included in a system plan
- Board will not take action on scenarios (for discussion purposes only)

Conceptual System Expansion Scenarios

Summary

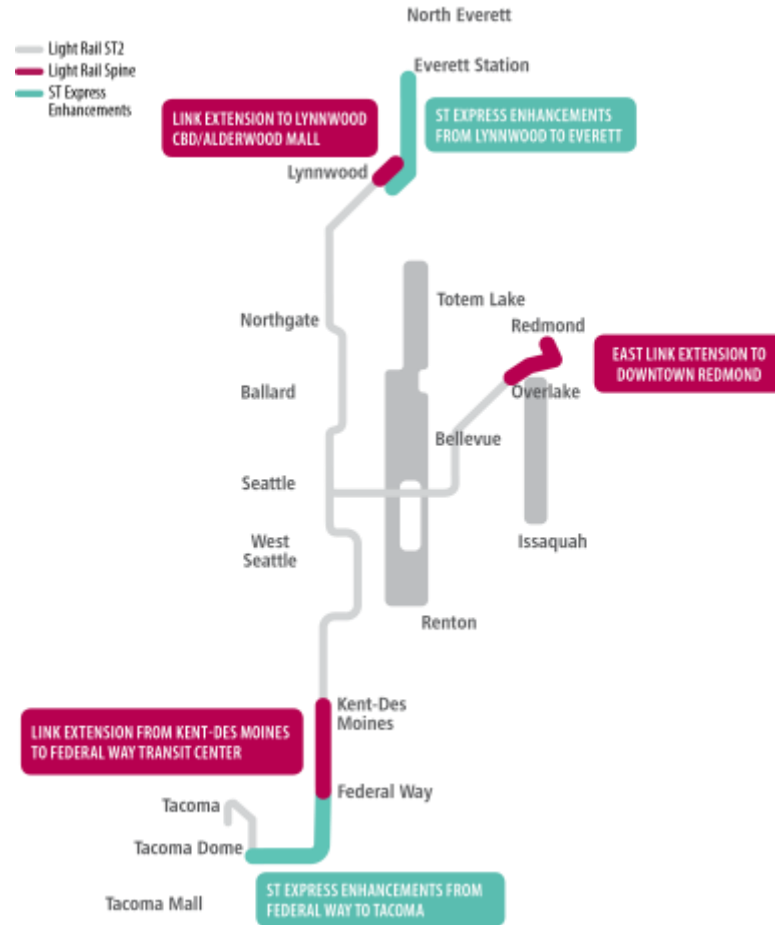
- 
- Incremental Expansion - Using Existing Revenue Authority
 - 1: Low Cost - Minor Progress Toward Completing Spine
 - 2a: Medium Cost - Some Progress Toward Completing Spine, Modest Additional Corridors
 - 2b: Medium Cost - Progress Toward Completing Spine, No Additional Corridors
 - 3a: Modest Spine Extension, Emphasis on Additional Corridors
 - 3b: Less Spine, More Additional Corridors
 - 3c: Most of Spine, Some Additional Corridors
 - 3d: Maximized Spine, Limited Additional Corridors
 - 4: Maximized Spine, Additional Corridor Investments

Conceptual Scenario

1:

Low Cost - Minor Progress Toward Completing Spine

- Does not consider sub-area allocation
- Includes allowance for:
 - Representative System Wide Improvements
 - Existing System Enhancements
 - ST2 Realigned Projects
 - Planning/Engineering to Advance “Next Logical Steps” beyond the Spine



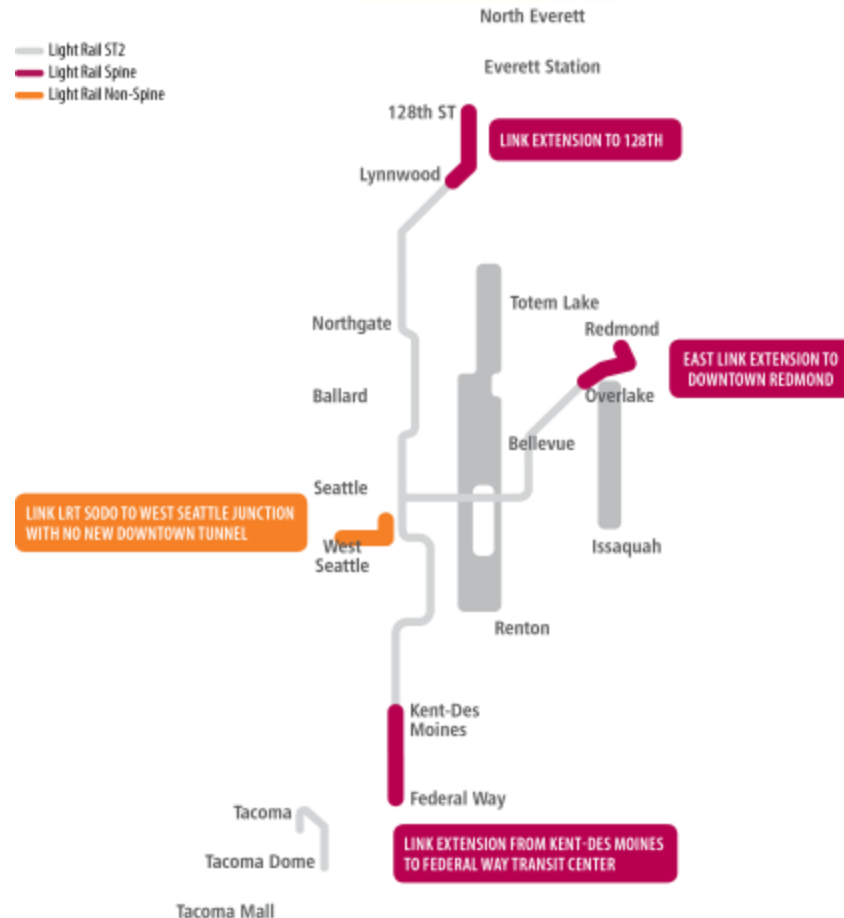
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 Conceptual Only
 For Analytical
 and Discussion
 Purposes

Conceptual Scenario

2a:

Medium Cost - Some Progress Toward Completing Spine, Modest Additional Corridors

- Does not consider sub-area allocation
- Includes allowance for:
 - Representative System Wide Improvements
 - Existing System Enhancements
 - ST2 Realigned Projects
 - Planning/Engineering to Advance “Next Logical Steps” beyond the Spine



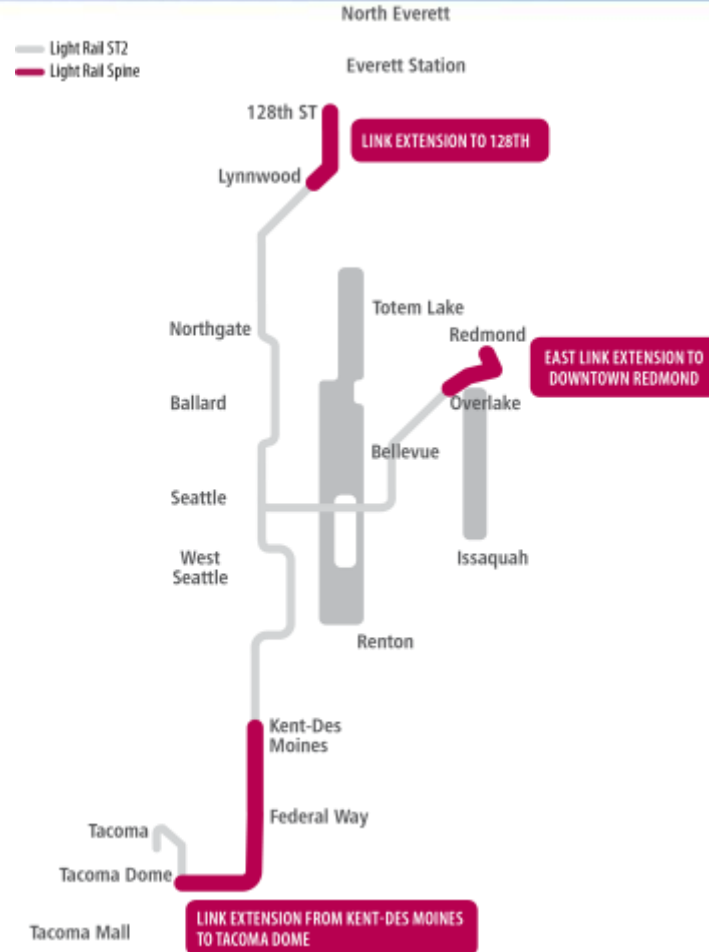
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Conceptual Scenario

2b:

Medium Cost - Progress Toward Completing Spine, No Additional Corridors

- Does not consider sub-area allocation
- Includes allowance for:
 - Representative System Wide Improvements
 - Existing System Enhancements
 - ST2 Realigned Projects
 - Planning/Engineering to Advance “Next Logical Steps” beyond the Spine

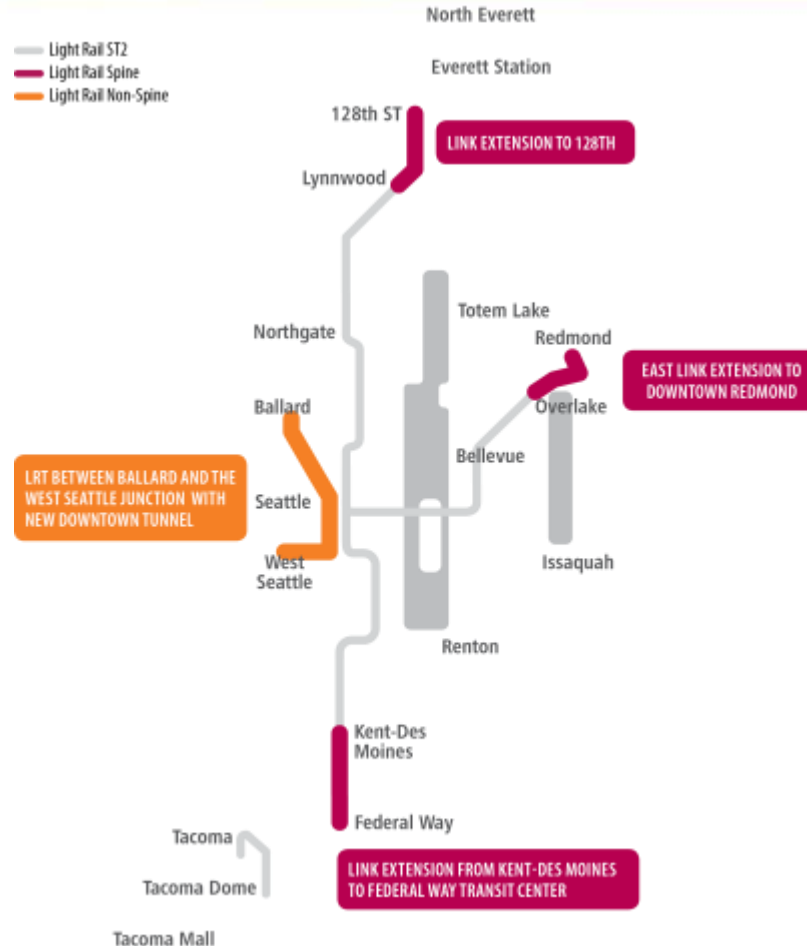


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Conceptual Scenario

3a: Modest Spine Extension, Emphasis on Additional Corridors

- Does not consider sub-area allocation
- Includes allowance for:
 - Representative System Wide Improvements
 - Existing System Enhancements
 - ST2 Realigned Projects
 - Planning/Engineering to Advance “Next Logical Steps” beyond the Spine



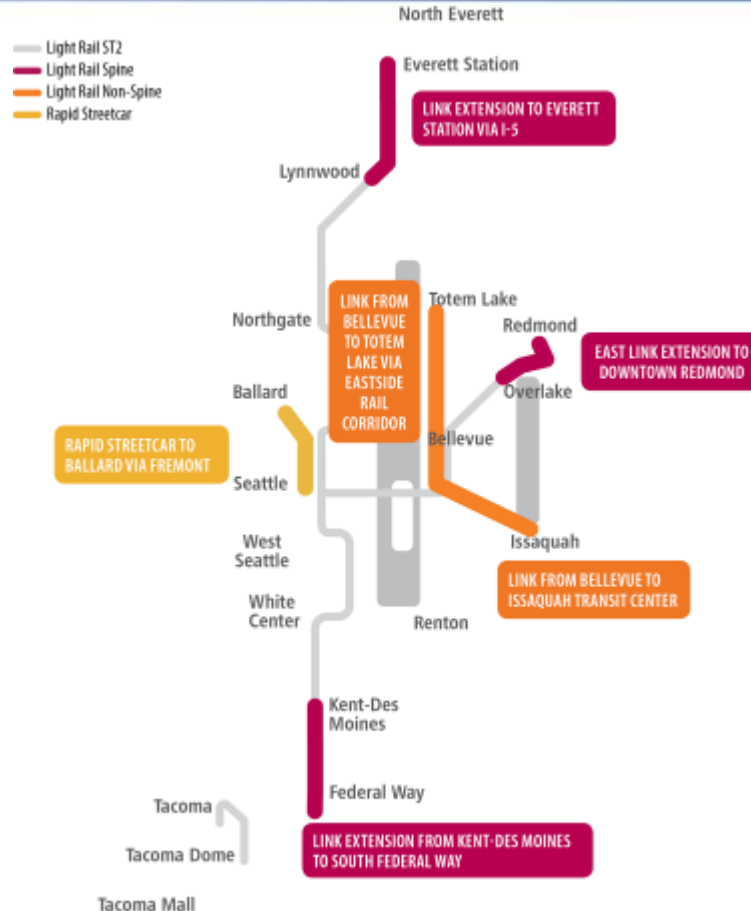
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Conceptual Scenario

3b:

Less Spine, More Additional Corridors

- Does not consider sub-area allocation
- Includes allowance for:
 - Representative System Wide Improvements
 - Existing System Enhancements
 - ST2 Realigned Projects
 - Planning/Engineering to Advance “Next Logical Steps” beyond the Spine



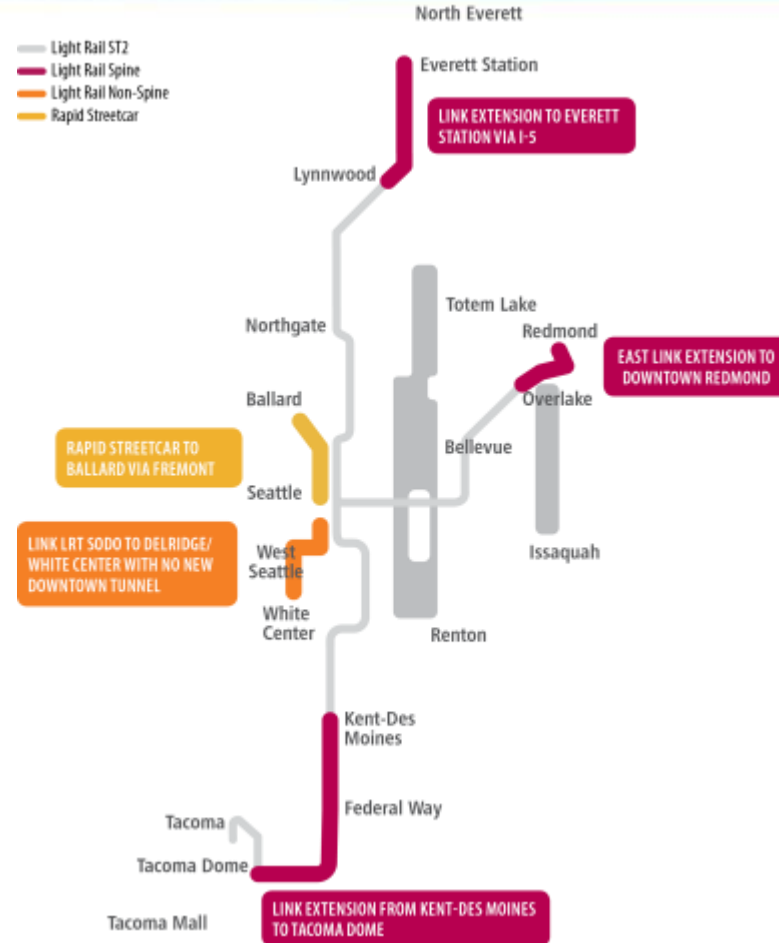
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Conceptual Scenario

3c:

Most of Spine, Some Additional Corridors

- Does not consider sub-area allocation
- Includes allowance for:
 - Representative System Wide Improvements
 - Existing System Enhancements
 - ST2 Realigned Projects
 - Planning/Engineering to Advance “Next Logical Steps” beyond the Spine

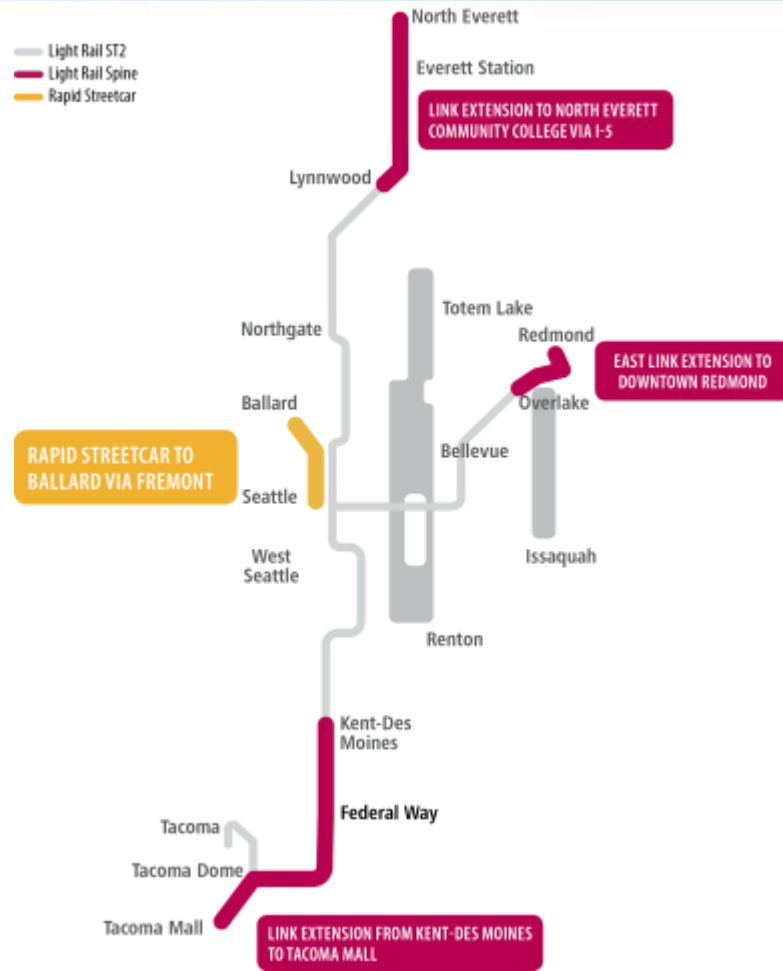


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Conceptual Scenario

3d: Maximized Spine, Limited Additional Corridors

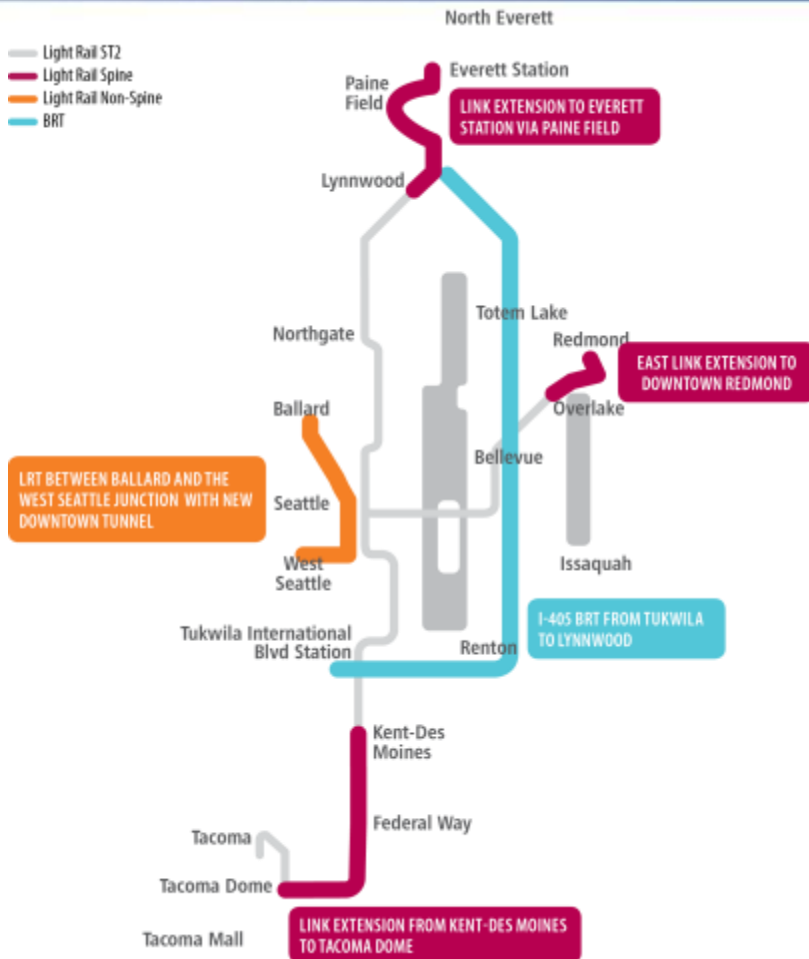
- Does not consider sub-area allocation
- Includes allowance for:
 - Representative System Wide Improvements
 - Existing System Enhancements
 - ST2 Realigned Projects
 - Planning/Engineering to Advance “Next Logical Steps” beyond the Spine



DRAFT:
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Conceptual Scenario 4: Maximized Spine, Additional Corridor Investments

- Does not consider sub-area allocation
- Includes allowance for:
 - Representative System Wide Improvements
 - Existing System Enhancements
 - ST2 Realigned Projects
 - Planning/Engineering to Advance “Next Logical Steps” beyond the Spine



**DRAFT:
Conceptual Only
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Purposes**

Evaluation Measures for Conceptual System Expansion Scenarios



COMPLETING THE LINK LIGHT RAIL SPINE

- Miles of LRT – Spine only
- Miles of LRT – Total system



RIDERSHIP

- Daily HCT boardings (2040)
- Percentage of transit passenger miles on HCT (2040)



CONNECTING THE REGION'S DESIGNATED CENTERS WITH HCT

- Number of designated centers served by HCT



PROMOTING TRANSIT SUPPORTIVE LAND USE AND TOD

- Population/employment within 1 mile of HCT station areas (2040)



SOCIO-ECONOMIC EQUITY

- Minority and low-income populations within 1 mile of HCT station areas (2014)



INTEGRATION WITH OTHER TRANSIT OPERATORS/TRANSPORTATION SYSTEM

- Opportunity for integration



MULTI-MODAL ACCESS

- Percentage of peak period transit access to HCT, by walk, bus, and auto access modes

- May 7th Executive Committee:
 - Discuss Process for draft Project Priority List
- May 28th Board Meeting :
 - Present Conceptual System Expansion Performance Results
 - Draft Project Priority List
- June-July:
 - Outreach
- August:
 - Finalize Project Priority List
- Fall:
 - Evaluate Project Priority List and Develop Templates

