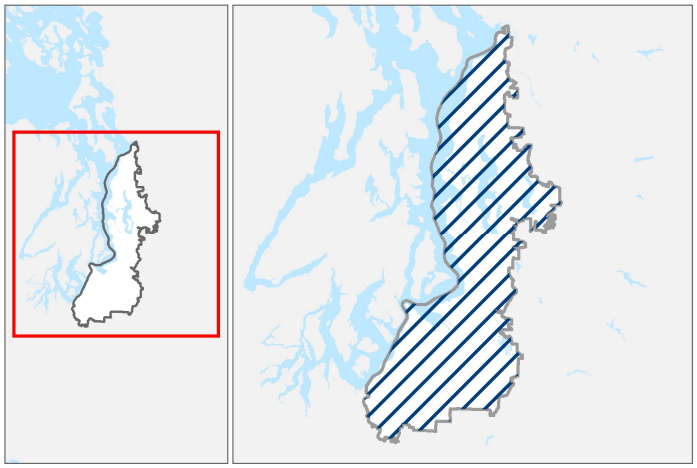
Innovation and Technology Program

Subarea	Systemwide
Primary Mode	N/A
Facility Type	N/A
Length	N/A
Date Last Modified	July 1, 2016

SHORT PROJECT DESCRIPTION

This program would fund research, analysis, and implementation of innovative best practices, partnerships, and technologies to increase ridership, improve service, and enhance efficiency of regional mobility outside of new investments in large capital projects.

PROJECT AREA AND REPRESENTATIVE ALIGNMENT



KEY ATTRIBUTES	
REGIONAL LIGHT RAIL SPINE *Does this project help complete the light rail spine?*	N/A
CAPITAL COST *Cost in Millions of 2014 $*	$75
RIDERSHIP *2040 daily project riders*	N/A

PROJECT ELEMENTS	Transit Technology
	• Research and development (R&D) for improvements in design and delivery of electronic customer information and mobility-oriented systems and applications for the following:
	  ○ General ridership
	  ○ First-time and occasional riders
	  ○ Limited English proficiency populations (residents and tourists)
	  ○ Limited mobility and special needs populations
	  ○ Transit-dependent populations
	• R&D for improvements in fare payment systems
	• Mobile and online application design for multi-modal coordination/integration
	• Awards, prizes, and support for student projects to develop transit-related innovations
	• Grant and partnership funding for joint R&D and implementation of innovative transit-related systems in conjunction with partner agencies and jurisdictions
	• Demonstrations or pilots of connected vehicle and driverless vehicle technologies
	• Deployment of other technology to improve ridership or system performance, safety, or reliability
	Transportation Business models
	• Research and development of new partnerships and collaborative business models with the full range of public and private mobility service providers such as bikeshare, carshare, rideshare, and employer/private/community/social service shuttles, as well as traditional fixed route and demand response public transit providers
	• Research and development of approaches to transition of transit facilities into multi-modal or multi-functional transportation hubs
	• Research into best and emerging industry policies, practices, and business models

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KEY ATTRIBUTES	
PROJECT ELEMENTS	Data analysis and research • "Big data" research using operational, survey, fare collection, incident/security, commute trip, built environment, census, traffic, economic, demographic, etc. data sources to identify barriers to transit use and system improvements to maximize regional mobility • Analysis of crime, accident, and incident data to identify security and safety improvement needs • Grant, partnership, and program funding for joint data-driven research and analysis with partner agencies and jurisdictions Transportation Demand Management • Employer and residential (particularly multi-family and TOD) outreach, incentive and marketing programs • Market research to identify target ridership segments for transportation demand management strategies • First- and last-mile partnerships and programs
NOT INCLUDED	Innovative technologies or business practices that are developed through this program and subsequently incorporated into standard Sound Transit programs and practices would not need to be supported by the Innovation Fund following program development
ISSUES & RISKS	• The design of this project relies upon coordination with other agencies, institutions, organizations, and businesses that are beyond Sound Transit's control, and therefore introduce more risk than would otherwise be involved in traditional capital projects • This program involves researching or testing new concepts for providing or enhancing regional mobility, and some ideas would be found to be unpromising for further development or implementation

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Sound Transit developed a conceptual scope of work for this project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information was developed to assist the Sound Transit Board as it developed the ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

Long Description:
This is a program that would fund research, analysis, and implementation of innovative best practices, partnerships, and technologies to increase ridership, improve service, and enhance efficiency and equity of regional mobility outside of new investments in large capital projects. Examples of projects that would be pursued within this program include the following:

- Research, development, and implementation for improvements in the design and delivery of electronic customer information, fare payment, and mobility-oriented systems and applications
- Improved integration of transit with existing and emerging networks of multimodal mobility services as well as all forms of transit connectivity and access
- "Big data" analysis to improve understanding of mobility markets, to identify barriers to transit use, and to identify system improvements to maximize regional mobility
- Transportation Demand Management programs for employers and residential populations to increase the use of Sound Transit systems
- Deployment of other technology to improve ridership or system performance, safety, or reliability, and to improve customer satisfaction/retention

Assumptions:
- All work would be coordinated with existing Sound Transit policies and programs, including the Transit Oriented Development (TOD) Policy and the System Access Policy
- To the extent possible, all work would be coordinated and integrated with efforts by partner transit/transportation/planning agencies, jurisdictions and organizations
- To the extent possible, program funds would be leveraged through partnerships, joint project agreements, and grant funds

Environmental:
Sound Transit would complete any state and federal environmental reviews and obtain any environmental permits that may be necessary for some elements of this project.

Utilities:
N/A

Right-of-Way and Property Acquisition:
N/A

Potential Permits/Approvals Needed:
N/A

Project Dependencies:
N/A

Potential Project Partners:
- All public and private mobility service providers, including partner transit agencies
- Local jurisdictions
- Research groups, universities, and organizations
- Grant-making institutions and organizations, including the State of Washington, FTA, FHWA, etc.
- Planning organizations and associations, including the Puget Sound Regional Council

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Cost:
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In Millions of 2014$

ITEM	COST
Agency Administration	$4
Preliminary Engineering & Environmental Review	
Final Design & Specifications	
Property Acquisition & Permits	
Construction	
Construction Management	
Third Parties	
Vehicles	
Regional Fund	$71
Contingency	
Total	**$75**

Design Basis: N/A

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Evaluation Measures:

MEASURE		MEASUREMENT/RATING	NOTES
	**Regional Light Rail Spine** *Does project help complete regional light rail spine?*	N/A	
	**Ridership** *2040 daily project riders*	N/A	Targeting ~2% increase in total daily project riders from efficiency/productivity gains
	**Capital Cost** *Cost in Millions of 2014 $*	$75	
	**Annual O&M Cost** *Cost in Millions of 2014 $*	N/A	
	**Travel Time** *In-vehicle travel time along the project (segment)*	N/A	
	**Reliability** *Percentage of alignment/route in exclusive right-of-way*	N/A	
	**System Integration** *Qualitative assessment of issues and effects related to connections to existing local bus service*	N/A	
	**Ease of Non-motorized Access** *Qualitative assessment of issues and effects related to non-motorized modes*	N/A	
	Percent of Non-motorized Access *Percentage of daily boardings*	N/A	
	**Connections to PSRC-designated Regional Centers** *Number of PSRC-designated regional growth and manufacturing/industrial centers served*	N/A	
	**Land Use and Development/TOD Potential** *Quantitative/qualitative assessment of adopted Plans & Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations* *Qualitative assessment of real estate market support for development within 1 mile of potential corridor* *Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential stations*	N/A N/A N/A	
	**Socioeconomic Benefits** *Existing minority / low-income populations within 0.5 mile of potential stations* *2014 and 2040 population within 0.5 mile of potential stations* *2014 and 2040 employment within 0.5 mile of potential stations*	N/A N/A N/A	

For additional information on evaluation measures, see http://soundtransit3.org/document-library