



**KING COUNTY**

1200 King County Courthouse  
516 Third Avenue  
Seattle, WA 98104

**Signature Report**

**March 3, 2015**

**Motion 14319**

**Proposed No. 2015-0032.2**

**Sponsors Dunn**

1           A MOTION relating to the King County Metro Strategic  
2           Plan for Public Transportation 2011-2021 and the King  
3           County Metro Service Guidelines, and accepting the King  
4           County Metro Access to Transit Phase 1 Report.

5           WHEREAS, in July 2011 via Ordinance 17143, the King County council adopted  
6           the King County Metro Strategic Plan for Public Transportation 2011-2021 and the King  
7           County Metro Service Guidelines, and

8           WHEREAS, the strategic plan and the service guidelines were to follow the  
9           recommendations of the regional transit task force regarding the policy framework for the  
10          Metro transit system, and

11          WHEREAS, in August 2013, Ordinance 17143, Section 4, was amended by  
12          Ordinance 17641, and

13          WHEREAS, Ordinance 17641, Section 3.A.1, specified that a work plan to  
14          identify potential updates to the strategic plan related to park and rides and other  
15          infrastructure supporting access to transit be transmitted by December 31, 2013, and

16          WHEREAS, on March 3, 2014, via Motion 14089, the council accepted the King  
17          County Metro Transit Access to Transit Study Work Plan ("the work plan"), and

18          WHEREAS, the work plan describes a phased approach over two years, with the  
19          phase 1 report due on December 31, 2014, addressing:

20           1. The role of park and rides and other community infrastructure related to access  
21 to transit; and

22           2. Industry best practices and innovative approaches to improve access to transit  
23 capacity including but not limited to parking management, technology, nonmotorized  
24 corridors and transportation demand management, and

25           WHEREAS, Metro has compiled this information and the executive has  
26 transmitted the phase 1 access to transit report set forth as Attachment A to this motion to  
27 the council and to the regional transit committee;

28           NOW, THEREFORE, BE IT MOVED by the Council of King County:

29           A. The King County council hereby accepts the King County Metro Access to  
30 Transit Phase 1 Report, Attachment A to this motion.

31           B. A report summarizing the results of Task A.1, defining "access", including a  
32 literature review and best practices of how jurisdictions and transit agencies define  
33 access, identified in Attachment A to Motion 14089 shall be completed by July 1, 2015.  
34 This report shall be transmitted to the clerk of the council, who shall retain the original  
35 and provide an electronic copy to all councilmembers, the chief of staff, the policy staff  
36 director and lead staff for the regional transit committee and transportation, economy and  
37 environment committee, or its successor.

38           C. A report summarizing the results of Task A.4., compiling existing information  
39 on current access to transit habits, identified in Attachment A to Motion 14089 and a  
40 report on park and ride users shall be completed by July 1, 2015. This report shall be  
41 transmitted to the clerk of the council, who shall retain the original and provide an  
42 electronic copy to all councilmembers, the chief of staff, the policy staff director and lead

43 staff for the regional transit committee and transportation, economy and environment  
44 committee, or its successor.  
45

Motion 14319 was introduced on 2/23/2015 and passed by the Metropolitan King County Council on 3/2/2015, by the following vote:

Yes: 9 - Mr. Phillips, Mr. von Reichbauer, Mr. Gossett, Ms. Hague,  
Ms. Lambert, Mr. Dunn, Mr. McDermott, Mr. Dembowski and Mr.  
Upthegrove  
No: 0  
Excused: 0

KING COUNTY COUNCIL  
KING COUNTY, WASHINGTON



Larry Phillips, Chair

ATTEST:



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Anne Noris, Clerk of the Council

**Attachments:** A. Access to Transit Phase 1 Report - December 31, 2014

# **King County Metro Transit**

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## **Access to Transit Phase 1 Report**

*The role of park-and-rides and other community infrastructure related to access to transit and industry best practices and innovative approaches to improve access to transit capacity*

**December 31, 2014**

***Prepared for:***  
**King County Council**

***Prepared by:***



**Department of Transportation**  
**Metro Transit Division**  
**Service Development Section**  
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[www.kingcounty.gov/metro](http://www.kingcounty.gov/metro)

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## Introduction

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### Purpose of this Report

As required by Ordinance 17641, Section 3B, this is a report on (a) the role of park-and-rides and other community infrastructure related to access to transit, and (b) industry best practices and innovative approaches to improve access to transit capacity.

### Background

This report is an initial step in a two-year study about access to transit that is required by Ordinance 17641. It sets the stage for Metro's continued exploration of transit access as part of its long-range planning efforts that Metro will embark upon in 2015. As identified in the Access to Transit Study Work Plan adopted in March 2014, by Motion 14089, the Access to Transit Study will consider multiple facets of transit access, including infrastructure that improves access to transit, access needs reporting and funding, and regional coordination and policies.

The Access to Transit Study Work Plan was developed with input from representatives of cities, the Washington State Department of Transportation (WSDOT), the Puget Sound Regional Council (PSRC), Sound Transit, County Executive and legislative staff, and the private sector. Per Ordinance 17641, the work plan includes a timeline, milestones, lead agency and scope to define:

- a. the role of park-and-rides and other community infrastructure related to access to transit;
- b. industry best practices and innovative approaches to improve access to transit capacity including but not limited to parking management, technology, nonmotorized corridors, and transportation demand management;
- c. options for regional needs reporting and funding of access to transit infrastructure;
- d. model policy language that supports access to transit through transit-oriented communities and infrastructure; and
- e. potential updates to the Strategic Plan for Public Transportation and Metro Service Guidelines to clarify the role, measurement and funding of access to transit as they relate to the King County Metro transit system.

The work plan divided the study into two phases, with a report due at the end of each phase.

- **Phase 1:** Information gathering (elements a and b)
- **Phase 2:** Regional coordination and policy development (elements c, d and e)

This Phase 1 report responds to the requirements in Ordinance 17641, Section 3B. It provides an overview of different modes used to access transit and the infrastructure that supports those modes, a review of what some agencies are doing to guide and improve transit access planning, and a look at what approaches agencies are considering or have implemented to improve access to transit.

Motion 14089 provided for adjustments in the delivery of the study in the event that staff were required to support development of major service reductions. Metro did focus significant resources in planning and developing service reductions during this time period. As such, some elements of the study originally envisioned for inclusion in this report will be addressed in the later phases of the Access to

region, as well as maintain contact with jurisdictions on transit access issues. The PSRC-facilitated Transit Operator's Committee made up of representatives from the transit agencies in the region also tracks the transit planning activities in the region, including the work on access to transit and long-range planning.

Metro is also coordinating closely with Sound Transit on long-range planning, including system access issues.

## I. The Role of Infrastructure in Access to Transit

This section discusses the primary modes of transportation people use to reach the fixed-route transit system, and factors that affect the attractiveness of those modes. Connections between transit services are also an important aspect of transit access, but this report focuses on connections to and from the transit system.

### Modes of access

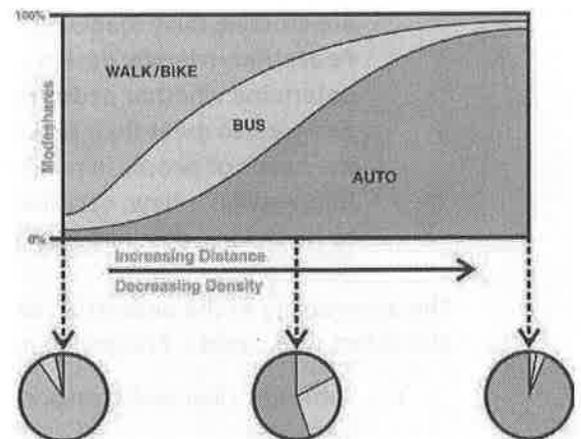
Three primary modes of access to the fixed-route public transportation system are considered in this paper:

- 1) Walking, including use of wheelchairs or other mobility aids
- 2) Bicycling
- 3) Driving, including driving alone, formal and informal carpools, commuter vans, and being dropped off

### Factors that affect mode choice

Factors that affect the feasibility and desirability of the various modes of access include cost, safety, time, distance, availability of a vehicle, topography, weather, aesthetics, wayfinding and user information such as real-time transit arrival information. The adjacent graph shows how distance and density can influence mode share. The physical abilities of the customer also influence what mode is chosen.

Creating good access means supporting a range of modes that respond to different needs and markets.



Source: TCRP Report 153

### 1) Walking, including use of wheelchairs or other mobility aids

Walking is the most basic and common way people get to and from the transit system, especially in densely populated areas and at the destination end of a trip.

How far people are willing to walk depends on many factors, including the street network pattern, availability of sidewalks, ease of crossing streets, terrain, and a person's age and physical abilities.

A number of studies have looked at the factors that influence how willing people are to walk to transit. In general, the findings suggest that people are willing to walk between one-quarter mile and one-half mile to reach transit. Research by the Transit Cooperative Research Program has found however that many pedestrians are willing to walk between one-half and one mile to access transit, longer than the traditional focus on one-half mile. Findings also suggest that people tend to be willing to walk farther when transit is more frequent and when conditions are favorable with safe and direct paths. Studies also

## 2) Bicycling

When conditions around a transit stop or station are adequate for bicycling, people in a wider area have access via bicycle. Bicycle-supportive conditions depend both on the connections to transit and the availability of options to safely transport or store a bicycle.

### Network considerations

A study on bicycle access to transit done by the Mineta Transportation Institute (Flamm and Rivasplate)<sup>6</sup> found that many people use bikes to reach transit, and that cyclists will travel a greater distance to do so. The study also found that many cyclists not only biked as a means to reach transit, but also combined biking and transit so they could ride their bikes more frequently.

Like walkers, the top consideration for cyclists in choosing a route is the shortest distance or fastest travel time afforded by a transportation network. The next most important consideration is safety in vehicle traffic (Kuzmyk et al).<sup>7</sup> Important network features for cyclists were found to be:

- Marked lanes on mixed-use streets and roads
- On-road (or immediately parallel) bike lanes physically separated from the vehicle right-of-way (cycle tracks)
- Separate off-road paths and trails
- Marked routes (bike boulevards) through suburban neighborhoods and low-volume streets

### Bike parking

Bicycle parking varies from uncovered bicycle racks to staffed bicycle garages, as seen in some high-density European cities. Studies have observed that the majority of cyclists prefer to bring their bikes with them on the bus or train, even when bicycle parking is available. Many riders said they feel more secure bringing their bikes with them rather than leaving the bikes at the place where they boarded transit.

### Bike share

Bike share programs can also provide access to and from transit. A bike share system is an automated public bicycle rental program with a network of stations. Bike sharing is a relatively new form of transportation. Pronto bike share program was recently introduced in Seattle with about 500 bikes and 50 stations.

### Bike-transit integration

Key observations about bicycle and transit integration include (Schneider and Toole Design Group)<sup>8</sup>:

- Bicycle services help attract more transit riders by extending the transit system's draw area and by providing greater mobility to customers at the beginning and end of their transit trips.
- Compared with the capital costs of buses, rail cars, and automobile parking facilities, it is relatively inexpensive for transit agencies to purchase bicycle equipment, such as bike racks on buses, bike hooks in rail cars, and bike racks and lockers at transit stations.
- Transit agencies have generally experienced few maintenance problems with their bicycle services. Problems reported included obtaining replacement parts for broken bus bike racks, abandoned bicycles in bicycle racks, bus bicycle racks interfering with windshield wipers, and the need to remove the bus bicycle rack when a bus is towed.

- Serve low-density residential areas
- Serve multiple markets
- Located in safe areas
- Complement and reinforce land development
- Provide fast and frequent rapid transit service
- Provide good roadway access

### **Who uses park-and-rides and why**

Surveys of park-and-ride users in the regions of Sacramento, northern Virginia, Chicago, Seattle, and Phoenix referenced in the Transit Capacity and Service Quality Manual, led to the following findings about riders and their choice to use a park-and-ride:

- Park-and-ride users are choice riders
- Park-and-ride users have significantly higher incomes than local bus riders
- The majority of park-and-ride users (more than 60 percent) travel to the central business district for work more than four times per week
- Parking at the destination is expensive
- Convenient, frequent bus service is offered at the park-and-ride
- Most riders find park-and-ride facilities because they can see them from their regular commute routes

### **Considerations**

In King County, demand for park-and-ride lots has increased. A number of lots are highly utilized, and some are over capacity. More information on park-and-ride utilization in King County can be found in the Park-and-Ride Utilization Report, <http://metro.kingcounty.gov/am/accountability/park-ride-usage.html>. Increasing the number of parking spaces by building additional park-and-ride lots or spaces is expensive and can be unpopular in some neighborhoods. Park-and-rides require significant capital investment for construction as well as ongoing maintenance cost. Total cost per stall in a surface lot is approximately \$20,000-35,000. Cost per stall in a structured park-and-ride lot ranges from \$35,000-55,000. (Cost estimates are based on construction, project management, design and construction management. They do not include the cost of land). They can also increase local congestion in the area of the park-and-ride, and they can induce driving if they draw riders who might otherwise walk to transit.

An alternative to building more lots is to improve the efficiency of the existing lots, with efficiency defined as the number of people served per parking space. Many strategies could be used to achieve this goal, but the primary mechanisms include pricing to manage demand and giving priority use to multi-occupant vehicles (e.g., carpools) as well as local transit options and nonmotorized modes (e.g., walking, bicycling). Leased lots and partnerships with organizations such as churches can also provide parking opportunities at a lower cost.

Options for moving forward will take a regional effort. Given the complexity of the park-and-ride system and the interconnected nature of transit service in the area, multiple agencies will need to be part of the discussion about how to respond to and manage park-and-ride demand. Sound Transit and WSDOT are both exploring different management strategies. Section III discusses these options further.

**Examples of Access Guidelines**

**Denver, Colorado: Transit Access Guidelines, Regional Transportation District (RTD) (2009):** Denver’s Regional Transportation District (RTD) developed Transit Access Guidelines to promote a consistent and coordinated approach to improving transit access throughout its service area. These guidelines:

- Outline the roles and responsibilities (RTD responsibility vs. non-RTD responsibility) for each public agency with respect to pedestrian and bicycle access improvements.
- Encourage access to the transit system through a hierarchy of modes, in order of priority: pedestrians, bus riders, bicyclists, vehicles (short-term parking), and vehicles (long-term parking).
- Are specific to transit modes including light rail, commuter rail, and bus transit.
- Include specific design standards such as walk speeds, platform design dimensions, access points, path distances to entrances, and sight line considerations.
- Promote transit-oriented development principles in joint development projects and require that pedestrian-oriented design, density, and mix of land uses to support transit access be considered during review.

**Portland, Oregon: Bus Stop Guidelines, TriMet. (2010):** TriMet’s Bus Stop Guidelines provide design guidance to support the agency’s work with communities to improve transit access throughout the Portland area. These guidelines:

- Include design, placement and amenity recommendations and outline the designs that maximize effectiveness of bus service, including amenities and street treatments.
- Acknowledge that bus stops play an important **Access Hierarchy** are as much a part of a community as streets, pathways, parks, and public spaces.
- Explore ways in which TriMet encourages communities to recognize the value bus stops play in their communities to enhance bus stops.

**Puget Sound Regional Council (PSRC)**

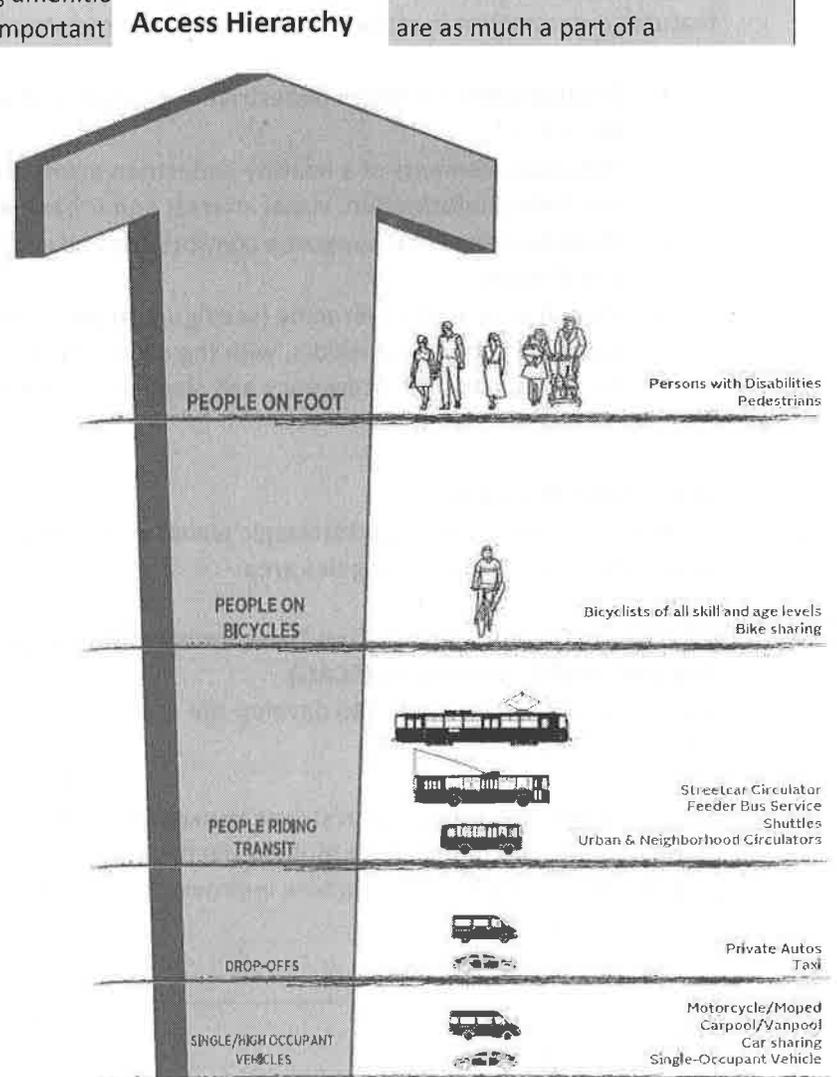
The PSRC collaborated with local transit agencies to develop the *Transit Supportive Toolkit*<sup>10</sup> which provides guidance on strengthening the linkage between land use and transit for local jurisdictions as they develop their comprehensive plans. It includes a chapter on guidance and strategies for improving access to transit.

**2) Policy**

Agencies and jurisdictions also develop policies to guide access planning and decision-making.

**Sound Transit**

Sound Transit adopted a System Access Policy in 2013 that established a broad framework for Sound Transit’s support,



- Defines first- and last- mile planning, reviews the challenges to transit access specific to the Los Angeles area and discusses land use and urban design in transit accessibility.
- Includes a guide to improve access and checklists to evaluate station safety, aesthetics, and accessibility.
- Introduces the concept of the Path, which proposes a countywide, transit access network designed to reduce the distance and time it takes people to travel from their origins to stations and from stations to destinations, while simultaneously improving the user experience.
  - The Path identifies five categories of transportation improvements that extend to and from Metro rail and bus rapid transit stations (see adjacent box).
  - The Path is proposed along specific access routes selected to shorten trip length and seamlessly connect transit riders with intermodal facilities. Intermodal facilities may include bus stops, bike hubs, bike share and car share programs, parking lots, or regional bikeways, depending on the location and context of the station.

Five categories of specific path improvements:

1. *Crossing enhancements and connections*
2. *Signage and wayfinding*
3. *Safety and comfort*
4. *Allocation of street space*
5. *Plug-in components*

### III. Innovative approaches to improve access to transit capacity

This section discusses studies that explore innovative approaches to improve access to transit. These approaches consider opportunities to make drive access more efficient and to draw more riders by bike and on foot.

#### 1) Increasing the efficiency of drive access

Many regions, including King County are faced with overcrowded park-and-ride lots. Each park-and-ride space in these lots is expensive to build and takes up potentially valuable space that could be used for a different purpose. Consequently, many agencies and organizations are trying to find ways to improve the efficiency of their park-and-ride lots. Many approaches to increasing parking efficiency involve parking management strategies and pricing.

Pricing – charging for parking in this case – can be designed to raise revenue and recuperate costs or to manage demand. Park-and-rides could require parking permits or provide pay-on-demand parking. These strategies would also help ensure that people using the parking are accessing the fixed-route transit system.

Differential pricing and other management strategies can also help promote multi-occupant vehicle access. For example, parking fees could be imposed for single-occupant vehicles, and lower or no fees could be charged for carpools. Other strategies include providing guaranteed or preferential parking spaces for carpools and vanpools. Practices that encourage carpools and vanpools result in access for more people in fewer vehicles.

#### Efforts in the Puget Sound Region

Sound Transit and WSDOT have each initiated studies, described below, that explore parking management and pricing strategies. The Sound Transit study includes transportation demand management strategies and the use of technology to monitor and communicate parking availability.

2. Dedicate a portion of parking spaces at each lot for multi-occupant vehicle use only
3. Revise local transit service near crowded park-and-rides to enable more people to use transit to get to them
4. Examine the use of parking at available lots near the park-and-ride facilities for overflow or single-occupant vehicle parking.

The 17 park-and-rides studied were Auburn Station, Eastgate Transit Center, Federal Way Transit Center, Issaquah Highlands Park-and-Ride, Issaquah Transit Center, Kenmore Park-and-Ride, Lynnwood Transit Center, Mercer Island Transit Center, Overlake Transit Center, Puyallup Station, South Everett Freeway Station, South Kirkland Park-and-Ride, Sumner Station, Tacoma Dome Station, Tukwila International Boulevard Station, Tukwila Park-and-Ride and Tukwila Station.

**c) Park-and-Ride Pricing in Multifamily Developments.** *King County Metro*

Metro is undertaking an effort to identify strategies to make available and price underutilized parking in multifamily developments near high-capacity transit corridors. Metro has conducted extensive research on the occupancy rates of multifamily parking through its Right Size Parking Project ([www.kingcounty.gov/rightsizeparking](http://www.kingcounty.gov/rightsizeparking)) and has determined that significant spaces are available. These could be used by potential transit customers who are willing to drive from their homes to locations which have better transit service levels in lieu of driving all the way to work.

The purpose of this project is to determine how to make it easier for transit customers to get access to these parking spaces. In phase one of the project, Proof of Concept, multiple subjects will be explored, including market assessment, transit capacity, technology applications, financial pro formas, parking management strategies, policy and legal issues, and relevance to other regional efforts, like construction mitigation. Business model alternatives will be developed with input from stakeholders. If a viable business model is identified, a pilot project will be designed and implemented in phase two of the project. Phase one will kick off in December 2014 and phase two is planned for 2016.

## 2) Improving nonmotorized connections

Nonmotorized modes are important ways to reach transit—many riders prefer to access transit by walking or biking if they can. In many areas, however, transit access is limited by poor or nonexistent, support for nonmotorized connections to bus and train stops. Many cities have walk and bike plans that outline blueprints for nonmotorized travel, but often they have broad goals and access to transit may not be a high priority. Other cities lack plans for supporting nonmotorized travel altogether. This section describes some specific studies and strategies to identify opportunities for improving pedestrian and bike access to transit.

**a) Nonmotorized Connectivity Study (2014).** *Metro and Sound Transit*

<http://metro.kingcounty.gov/programs-projects/nmcs/>

Through a partnership between King County Metro and Sound Transit, this project presents new methods to help planners analyze bicycle and walking access to transit services. This study provides an innovative analysis approach and set of tools to evaluate the benefits of nonmotorized access improvements to transit.

Metro and Sound Transit sought to figure out how transit agencies can maximize the efficiency of their investments by increasing access to routes and transit centers through Nonmotorized connectivity improvements. To answer this question, a GIS analysis was applied to more than 500 transit stops across a 400 square mile study area. The project team collected the planned bicycle and pedestrian

- Added parking fees for cars

## IV. Next Steps

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This report is the first phase of an access to transit study. It sets the stage for continued consideration of transit access in King County. It provides an overview of different modes used to access transit and the infrastructure that supports those modes, a review of what some agencies are doing to guide and improve transit access planning, and a look at what approaches agencies are considering or have implemented to improve access to transit.

Motion 14089 provided for adjustments in the delivery of the study in the event that staff were required to support development of major service reductions. Metro did focus significant resources in planning and developing service reductions during this time period. As such, some elements of the study originally envisioned for inclusion in this report will be addressed in the later phases of the Access to Transit Study as part of Metro's long-range plan development which will be launched in 2015.

Phase 2 of the study will include further consideration of the definition of access, review of access to transit habits in King County, review of regional and local plans that address transit access, continued tracking of ongoing local studies on transit access infrastructure, and continued consideration of how best practices and innovative approaches could be applied in King County. As part of Phase 2, Metro will also explore with its partner agencies the issues of access needs reporting and funding, regional coordination and policies. The PSRC will be critical to this part of the study.

Metro is working with other agencies on this topic through the PSRC regional transit access working group. Metro is also looking forward to the Service Guidelines Task Force and long-range plan outreach as opportunities to engage agencies and riders about access to transit issues. Input from the King County Council will also be essential as Metro moves forward with the development of the long-range plan and the regional conversation about access to transit.

19. Puget Sound Regional Council (2013). Transit Supportive Toolkit: Guidance and Resources for Plan and Policy Development. <http://www.psrc.org/transportation/transit/toolkit/>
20. Ryan, Sherry and Frank, Lawrence (2009), Pedestrian Environments and Transit Ridership, *Journal of Public Transportation Vol. 12 No 1*.
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22. Shirgaokar, M., and Deakin, E. (2005), *Study of park and ride facilities and their use in the San Francisco Bay*. Transportation Research Record, No. 1927, pp. 46-54.
23. Sound Transit. (2014), System Access Issue Paper (Draft). Regional Transit Long-Range Plan Update. [http://www.soundtransit.org/Documents/pdf/projects/LRPupdate/201410\\_SystemAccessIssuePaper.pdf](http://www.soundtransit.org/Documents/pdf/projects/LRPupdate/201410_SystemAccessIssuePaper.pdf)
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25. Turnbull, K. (1995), *Effective use of park and ride facilities*. NCHRP Synthesis of Highway Practice Report No. 213.

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## Endnotes

<sup>1</sup> Kittelson & Associates, Inc; KFH Group, Inc.; Parsons Brinckerhoff Quade & Douglass, Inc.; Hunter-Zaworski, Dr. K.; *Transit Capacity and Quality of Service Manual, 2<sup>nd</sup> Edition* (2003). TCRP Report 100. Transportation Research Board.

<sup>2</sup> How Far, By Which Route, and Why? A Spatial Analysis of Pedestrian Preference, Marc Schlossberg et al., Mineta Transportation Institute, 2007

<sup>3</sup> Pedestrian Environments and Transit Ridership, Sherry Ryan and Lawrence Frank, *Journal of Public Transportation Vol 12 No 1, 2009*

<sup>4</sup> Coffel, K., J. Parks, C. Semler, P. Ryus, D. Sampson, C. Kachadoorian, H.S. Levinson, and J.L. Schafer. *TCRP Report 153: Guidelines for Providing Access to Public Transportation Stations*,

<sup>5</sup> TCRP Report 165, *Transit Capacity and Service Quality Manual*, 3<sup>rd</sup> Edition, 2014. Chapter 5

<sup>6</sup> Flamm, Bradley, Ph.D. And Rivasplata, Charles, Ph.D. (2014), *Perceptions of Bicycle-Friendly Policy Impacts on Accessibility to Transit Services: The First and Last Mile Bridge*. Mineta Transportation Institute. Report No. CA-MTI-14-1104.

<sup>7</sup> Kuzmyk, J Richard et al; (2014) NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP REPORT 770) *Estimating Bicycling and Walking for Planning and Project Development: A Guidebook*. Transportation Research Board.

<sup>8</sup> Schneider, R. and Toole Design Group. *TCRP Synthesis 62: Integration of Bicycle and Transit-A Synthesis of Transit Practice*. Transportation Research Board, National Research Council, Washington, D.C., 2005.

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<sup>9</sup> Coffel, K., J. Parks, C. Semler, P. Ryus, D. Sampson, C. Kachadoorian, H.S. Levinson, and J.L. Schafer. *TCRP Report 153: Guidelines for Providing Access to Public Transportation Stations*. Transportation Research Board of the National Academies, Washington, D.C., 2012.

<sup>10</sup> Puget Sound Regional Council. *Transit Supportive Toolkit (2013)*  
<http://www.psrc.org/assets/10666/TransitPlanningToolkit.pdf>.