**REVISED STAFF REPORT**

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| **Agenda Item:** | 6 | **Name:** | Paul Carlson |
| **Proposed No**.: | 2015-0350 | **Date:** | October 14, 2015 |

**COMMITTEE ACTION**

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| ***Proposed Substitute Ordinance 2015-0350, which would approve transportation service changes related to the Link light rail expansion to Capitol Hill and the University of Washington passed out of committee on October 14, 2015, with no recommendation. The motion was amended in committee with Amendment 1, which would make the following changes:***  ***NEW STATEMENT OF FACT: The amendment adds a statement of fact to the ordinance noting that the service changes would have significant impacts on transit riders and require many riders to transfer, and that, therefore, the ordinance makes a number of requirements of Metro so as to allow the Council to assess the impact on riders and be able to make adjustments as needed in future service changes.***  ***TRANSFER ENVIRONMENT REQUIREMENT: The amendment adds a new Section 2 to the ordinance that would outline a series of requirements for Metro to report on plans developed with Sound Transit, the City of Seattle and the UW to improve and enhance the transfer environment at high-transfer locations. Text in the ordinance and a map (new Attachment B to the amendment) identify a number of high-transfer locations. Metro would report back to the committee by the end of January 2016 with a short-, medium-, and long-term implementation plan to make improvements at high-transfer locations.***  ***PUBLIC ENGAGEMENT REQUIREMENT: The amendment adds a new Section 3 to the ordinance that would outline a series of requirements for Metro, in collaboration with partners at Sound Transit, the City of Seattle, and University of Washington to reach out to members of the public to provide education and assistance. This outreach would include advance notice about route changes, helping people obtain ORCA cards and enroll in ORCA LIFT or other reduce fare programs, notice of shuttles and other transportation options, advertisements, and enhanced outreach during the initial service period. Metro would make an oral presentation to the committee in December about its plans, and would provide monthly oral reports as needed.***  ***RIDERSHIP IMPACT REQUIREMENT: The amendment adds a new Section 4 to the ordinance that would outline a series of requirements for Metro, in collaboration with Sound Transit, and following the model used for the C and D Line assessment, to identify performance measures for the routes and corridors affected by the restructure. This would include performance measures to assess ridership and customer satisfaction, including a survey to be conducted by March 2017 on rider and resident satisfaction pre and post service change. Metro would report on its plans by late January 2016.***  ***TRAFFIC IMPACT REQUIREMENT: The amendment adds a new Section 5 to the ordinance that would require Council approval by motion of a traffic impact study prior to installation of a new bus stop on Montlake near Hec Edmundson Pavilion. The purpose of the traffic impact study would be to determine impacts of a new bus stop on Montlake Boulevard traffic as well as the nearby intersections.***  ***TECHNICAL CHANGES: The amendment makes a number of technical changes and corrections to the route descriptions included in the ordinance, including adding correct citations from the Strategic Plan.***  ***ROUTE 43: The amendment modifies the proposed deletion of Route 43 to maintain service during peak periods on weekdays, with service about every 30 minutes. There would be no map change to this route, only a change in the hours of service.***  ***ROUTE 65: The amendment modifies the additional service on Route 65 to improve frequency on weekdays and Saturdays to every 15 minutes.***  ***ROUTE 67: The amendment maintains the routing of Route 67 on 11th Avenue NE and Roosevelt Way NE in the University District and introduces weekend service.***  ***ROUTE 71: The amendment modifies the proposed deletion of Route 71 to maintain half-hourly service between Wedgwood and the University District on weekdays and Saturdays. The 71 would not travel all the way downtown, but instead would travel to the UW light rail station.***  ***ROUTE 73: The amendment maintains the routing of Route 73 on University Way in the University District, and discontinues southbound service in the morning peak period and northbound service in the afternoon peak period. In addition, it maintains Saturday service on Route 73. The 73 would not travel all the way downtown, but instead would travel to the UW light rail station.***  ***ROUTE 76: The amendment adds less service than had originally been proposed on Route 76, though would provide more peak-hour trips than is currently provided.***  ***ROUTE 78: The amendment modifies Route 78 to operate between Laurelhurst and University District during peak and midday hours on weekdays.***  ***ROUTE 316: The amendment adds less service than originally proposed on Route 316.*** |

**SUBJECT**

An ordinance approving public transportation service changes to integrate with the Link light rail extension to Capitol Hill and the University of Washington; changes would take effect in March 2016.

**SUMMARY**

On September 15, 2015, the Committee heard a briefing on the proposed University Link (U Link) restructure of King County Metro bus routes including: (1) a summary of the proposed changes; and (2) initial Council staff analysis of the potential impacts of the proposal. On September 29, 2015, the Committee heard a presentation by King County Metro staff describing the proposed changes. On October 6, 2015, the Committee heard Council staff response to questions posed at the September committee meetings. Also on October 6, 2015, the Committee held an evening special meeting to hear public comment on the proposed changes.

Today’s briefing will cover the additional Council staff analysis responding to Councilmembers’ comments and questions from October 6, 2015.

**BACKGROUND**

Proposed Ordinance 2015-0350 (Attachment 1) would approve changes to 31 bus routes effective March 26, 2016. The proposal would create five new bus routes, modify 14 bus routes, and delete 12 bus routes. Administrative changes, not subject to Council approval, would modify another seven routes. The proposed route changes are the product of a restructure that is designed to coordinate King County Metro bus routes with the two new Link Light Rail stations opening for service in March 2016.

Issues analyzed in this staff report include:

* Transfers – National Standards
* Regional Government Role in Service Investments
* Preview of Crowding and Schedule Reliability Needs
* All Day Pass Fare Media
* Factors Affecting Ridership Estimates
* Metrics to Determine Actual Ridership Impacts
* Transfer Locations

**ANALYSIS**

**Transfers – National Standards**

Councilmembers asked for information on national standards or best practices for mid-trip transfers.

Council staff has not been able to find a national standard relating to a bus-to-bus or bus-to-rail transfer as part of a complete transit trip. Review of all potentially relevant research would be a significant body of work. A few general comments:

The Transit Cooperative Research Program (TCRP), a branch of the National Academy of Sciences, conducts research on a wide range of transit-related topics. The *Transit Capacity and Quality of Service Manual, 3rd Edition*, Chapter 4, Quality of Service Concepts, discusses transit service factors that affect consumer choice including the conditions for linked trips – those involving transfers.

Frequency, reliability, and wait time are among the factors that motivate passengers, suggesting that the proposed restructure’s emphasis on increasing frequency and reliability of bus service at the Link stations and along bus corridors would respond to some of the important rider motivations as U Link comes on line.

Some research suggests that passengers are more concerned about the time spent in mid-trip compared to the time spent in vehicles, giving transit agencies an incentive to make transfers as easy as possible and to minimize factors that make the transfer experience stressful, such as uncertainty about the length of the wait. This research would indicate that Council interest in the transfer environment is well placed.

King County Metro is working with the Puget Sound Regional Council (PSRC) on the Access to Transit Report, which has as its focus the challenges for riders at the start and end of transit trips; the Phase 2 Report is due to the Council at the end of the year. The Access to Transit Phase 1 Report includes discussion of pedestrian access to transit and a list of references at the end which includes non-motorized references:

<http://mkcclegisearch.kingcounty.gov/View.ashx?M=F&ID=3650277&GUID=B1E3BD2B-89F1-4F15-9A12-A580BFC4E8CE>

Similar challenges were reviewed in a nonmotorized study by King County and Sound Transit: <http://metro.kingcounty.gov/programs-projects/nmcs/>

**Regional Government Role in Service Investments**

Councilmembers asked how King County considers its responsibilities as a local government when new transit service hours come into the system.

King County Metro is the transit provider for all King County, including the cities and the unincorporated area for which King County is the local government. Proposed Ordinance 2015-0350, approving the U Link restructure, focuses on services within Seattle (the Route 316 serves Meridian Park in Shoreline and the Route 372X extends to Lake Forest Park, Kenmore, and Bothell). Proposed Ordinance 2015-0349, the non-U Link service change, includes a revision to routes in Southeast King County that is part of an alternative service package, now being planned. This Southeast King County project reflects policy direction in the original Five Year Implementation Plan for Alternatives to Traditional Transit Service; it is intended to provide “right-sized” service to the unincorporated area as well as Enumclaw, Black Diamond, and other communities.

Most transit service connects the most densely populated parts of the county, typically in cities, but Metro Transit addresses unincorporated area transit needs at each step of service development and implementation. In the planning process, Metro designates “transit activity centers” throughout the county including rural cities; these are linked by transit corridors to other parts of the county. Routes are planned to provide service on each transit corridor, several of which travel through unincorporated areas. Outreach includes unincorporated communities. With the recent development of alternative services, unincorporated area needs are considered. The Snoqualmie Valley Shuttle, for example, connects cities via the unincorporated area. Planning on Vashon Island is under way now.

**Preview of Crowding and Schedule Reliability Needs**

Councilmembers asked if it would be possible to receive a preview of the 2015 Service Guidelines Report analysis of crowding and scheduling reliability needs to determine whether the restructure proposal is responsive to the latest data. The 2015 Service Guidelines Report, due to the Council on October 31, 2015, reflects Spring 2015 performance data.

As discussed in the previous staff report, the Service Guidelines’ priorities for service hour investments are: (1) Passenger loads (overcrowding); (2) Schedule reliability (on-time performance); (3) All-Day and Peak Network (adjusting under-served and over-served corridors)[[1]](#footnote-1); and (4) Productivity (additional service on productive corridors).

For the U Link restructure, crowding and schedule reliability needs would be addressed by creating new route schedules that reflect the travel time under current conditions and recovery time (when a bus is at a layover site between trips). On some routes, reliability would be addressed by splitting or by revising the alignment to avoid areas of congestion. The 8,000 hour reserve is proposed to deal with any immediate problems that arise when the service change goes into effect.

The following Metro statement provides more detail on this topic:

“The City of Seattle’s investments in crowding and reliability fully met the needs identified on Seattle routes as identified in the 2014 Service Guidelines Report. The 2015 Service Guidelines Report was prepared with a dataset spanning from February 14–June 5, well into the U Link restructure planning process. The 2015 analysis has identified routes where crowding and/or reliability has worsened and that need additional investment.

We expect the changes proposed in relation to the proposed U-Link to address needs identified on the routes noted below. Please note that the lists below do not include routes proposed for deletion.

* + The U-Link restructure is expected to relieve overcrowding on routes 11, 16,[[2]](#footnote-2) 32, 65, 75, 76, and 316.
  + The U-Link restructures is expected to help improve schedule reliability on routes 8, 10, 11, 12, 16, 26, 28, 31, 32, 44, 48, 49, 64 Express, 65, 70, 73, 74 Express, 75, and 373 Express.

These and the other routes in the restructure are having new trip schedules built to ensure the network functions as intended. These service adjustments, which should help reduce crowding and improve reliability, are included as an integral part of the restructure plan.

The proposed restructure will alter travel patterns and customer choices. The U Link restructure is intended to anticipate these potential problems by shifting resources to routes that are likely to have higher ridership. Metro will be closely monitoring the system following the March 2016 service change to identify performance issues as part of our on-going management of the system. We have set aside a reserve of approximately 8,000 annual hours to address issues that we identify in relation to the U-Link restructure.”

Attachment 3 contains a preview of 2015 Service Guidelines Report data for routes serving the University District and Capitol Hill. The first table lists bus routes serving the University District and Capitol Hill that are not addressed in the proposed restructure. A second table lists bus routes that are addressed in the proposed restructure.

**All Day Pass Fare Media**

Councilmembers asked if there is an All-Day Pass option, and whether it could offer a way for cash-paying customers to avoid paying for transfers between transit modes.

At the Committee meeting, King County Metro staff indicated that there is an All-Day ORCA card pass option. Here is some additional information:

In July 2015, the ORCA agencies introduced two Regional Day Passes that can be loaded onto ORCA cards:

* The full fare adult day pass costs $8.00 and is valid for fares up to $3.50; this would cover any Metro bus trip, any Central Link trip, and any single- or multi-county Sound Transit Express bus trip.
* The reduced fare day pass can be added to a Regional Reduced Fare Permit ORCA card; it costs $4.00, and is valid for fares up to $1.75. The reduced fare day pass would cover youth or senior-disabled trips on Metro bus, Central Link, and Sound Transit Express bus trips.

More information is available in Attachment 4.

The October 6, 2015, Staff Report discussed transit fares including the ORCA LIFT low-income fare. A sentence in that report needs to be clarified – new language is in italics:

In addition, Metro operates mobile ORCA-to-Go units that sell ORCA cards and offer enrollment for the ORCA LIFT program *if personnel from Public Health or other qualified eligibility-determination agencies are present to verify applicants’ income eligibility*.

**Factors Affecting Ridership Estimates**

More information was requested about the factors contributing to the low and high range ridership estimates provided by Metro for the U-Link restructure. Metro’s ridership projections for a “no change” alternative range from a loss of 3.9 million riders to a gain of about 500,000 riders. For the restructure, Metro’s projected ridership range is from a loss of 3.2 million riders to a gain of 4.9 million. The estimated net difference is that Metro would gain 700,000 to 4.5 million more riders resulting from the proposed restructure compared to no change. These estimates do not include ridership on Link or Sound Transit buses.

**Table 1. Assumptions made in U-Link restructure ridership estimates**

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| --- | --- | --- | --- |
| Factor | Routes impacted | Low end | High end |
| Routes where Link will be a faster alternative | 10, 11, 43, 49, 71, 72, 73, 74 | 2/3 switch to Link, of riders for whom Link is an option | 1/3 switch to Link, of riders for whom Link is an option |
| Routes with structural changes | 8, 16, 25, 26, 28, 30, 38, 43, 45, 48, 62, 64, 66, 67, 68, 71, 72, 73, 242, 372 | Complete loss of ridership where routes or route segments are deleted | Complete loss of ridership where routes or route segments are deleted |
| Routes with service level changes[[3]](#footnote-3) | 8, 10, 12, 26, 28, 31, 32, 44, 45, 48, 49, 62, 64, 65, 67, 70, 73, 74, 75, 76, 316, 372 | 30% ridership gain for each doubling of service levels | 100% ridership gain for each doubling of service levels |
| Routes with improved reliability[[4]](#footnote-4) | 8, 38, 45, 48, 65, 67, 73 | 3% ridership increase | 5% ridership increase |
| Routes with riders switching from other eliminated routes | 11, 26, 45, 48, 62, 65, 67, 70, 76, 78, 238, 316, 372, | 50-100% ridership retention, based on comparability of service frequency | 50-100% ridership retention, based on comparability of service frequency |
| Routes serving new markets[[5]](#footnote-5) | 62, 63, 64 | 1000 new daily riders | 2000 new daily riders |

Ridership changes based on the assumptions listed in the table above were made for each route impacted by the University Link restructure proposal. The total low and high estimates for all routes were combined to determine the low and high ends for estimated ridership associated with the proposal.

This was compared to a scenario of University Link opening but with the current route structure. The same assumptions were applied to generate low and high ridership changes associated with riders switching to Link and ridership gains for routes receiving service frequency improvements funded by Seattle.

*Explanation of University Link Ridership Estimates*, a short explanation of estimates was provided as an attachment to the October 6, 2015, staff report but not discussed in Committee. It is reprinted as Attachment 5 to this staff report.

Under either the “no change” or the restructure scenario, Link is estimated to draw riders from Metro and create Metro-Link transfer trips. The result is a revenue loss to Metro, which would vary depending on how many trips in each category (Metro-only, Metro-Link, and Link only) take place.

**Metrics to Determine Actual Ridership Impacts**

Councilmembers commented on the need to develop metrics to determine actual ridership impacts after the restructure (six months and one year) and test the accuracy of Metro’s ridership assumptions to provide learning experiences for future Link related restructures.

In response, King County Metro staff notes that April 2015 ridership will be monitored through field checks to identify any necessary emergency adjustments. A similar approach was carried out when the RapidRide C and D Lines were implemented.

For the longer-term evaluation, Metro staff proposes to conduct an analysis similar to those carried out for the original Central Link Light Rail opening and the RapidRide C and D Line implementation. In this case, boardings/alightings would be evaluated at stops along segments in Northeast Seattle and Capitol Hill. An example of this analysis for the Link Light Rail opening is available on request.

King County Metro staff notes that it takes time for riders to adjust and for new travel patterns to emerge. Accordingly, they recommend conducting an initial comprehensive ridership assessment based on the Fall/Winter 2016-2017 service change, with a report available in about June 2017. Because it takes up to three years for ridership patterns to mature, a final comprehensive ridership assessment could be conducted based on the Fall/Winter 2018-2019 service change. This analysis would identify more and less successful elements of the restructure.

**Transfer Locations**

Councilmembers commented on the need for Metro to collaborate with Seattle Department of Transportation and Sound Transit to examine the transfer locations in the restructure area and determine what can be done to make transfer locations as efficient, safe, and convenient as possible, including such elements as lighting, benches, shelters, cross walks, trash receptacles, and next bus information). The need applies both to what can be done by service startup and what can be done within a time period following the startup.

Metro staff has provided a map showing the locations expected to see the greatest increase in transfer activity. This map is included as Attachment 2 to this staff report.

The staff report also includes an updated list of **Public Comments** (Attachment 6) with comments received via the Council’s web site between October 6 and 11, 2015, as well as written comments submitted at the evening public hearing or emailed to the committee.

**LINKS**

Documents including background information for this proposed service change are available in electronic form at the links listed below:

County Council Legistar Website – Proposed Ordinance 2015-0350 and Attachments:

<http://mkcclegisearch.kingcounty.gov/LegislationDetail.aspx?ID=2445926&GUID=AD4E4566-858F-4670-A37A-C7F758459A24&Options=ID|Text|&Search=2015-0350>

County Council Service Change Summary Page (includes link to Comment Page):

<http://kingcounty.gov/council/issues/2016-transit-service-change.aspx>

County Council Comment Page – direct link to submit comments:

<http://kingcounty.gov/council/testimony/testimony-backup2.aspx>

King County Metro Website - Link Connections:

[www.kingcounty.gov/metro/LinkConnections](http://www.kingcounty.gov/metro/LinkConnections)

King County Metro Website – Strategic Plan for Public Transportation 2011-2021:

<http://metro.kingcounty.gov/planning/strategic-plan/index.html>

1. The TSP establishes 112 corridors connecting key destinations (Transit Activity Centers), which comprise the All-Day and Peak Network. Each corridor is assigned a desired target level of service frequency based on productivity (land use) accounting for 50% of the score, social equity with 25% of the score, and geographic value with 25% of the score. This 50-25-25 ratio was mentioned at the September 15 Committee meeting. This third priority for service hour reinvestments is intended to show the corridors that need additional service as to reach their target frequencies. [↑](#footnote-ref-1)
2. New Route 62 is expected to address Route 16 crowding issues in Green Lake and Wallingford and reliability issues. [Council staff note.] [↑](#footnote-ref-2)
3. According to Metro, industry research recommends assuming a 30-100 percent ridership increase for each doubling of service. [↑](#footnote-ref-3)
4. According to Metro, limited industry research indicates a 10 percent improvement of reliability would result in a 3% to 5% increase in ridership [↑](#footnote-ref-4)
5. Metro based ridership estimates on existing routes serving these “new markets” [↑](#footnote-ref-5)