BURKE GILMAN TRAIL EXTENSION PROJECT

Parking Assessment - Shilshole Segment

FINAL

PREPARED FOR

SvR Design

Seattle Department of Transportation

PREPARED BY

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OVERVIEW

The Seattle Department of Transportation (SDOT) Burke-Gilman Trail Extension Project is anticipated to complete the missing link between two existing portions of the Burke-Gilman Trail located at 11th Ave NW and 30th Ave NW (at the Hiram M. Chittenden Locks) in Seattle. SDOT issued a Determination of Non-significance for the project under the State Environmental Policy Act (SEPA) on November 26, 2008, which was appealed.

Now, upon remand by the King County Superior Court, SDOT has revised its description of the project to include Shilshole Ave NW between 17th Ave NW and NW Vernon Pl in Seattle (the Shilshole segment). This document analyzes the parking impacts along the Shilshole Segment and serves as an addendum to the original Parking Review memorandum dated November 13, 2008.

Like the trail alignment evaluated in the 2008 memo, uses of the public right-of-way along the Shilshole segment are not formally organized and have not been expressly approved or permitted by the City. Due to the unorganized nature of most of the parking supply, the density of parked vehicles depends on the efficiency of the drivers parking on a particular day. In some areas along the Shilshole segment, vehicles could be perpendicularly parked on one day and aligned in parallel fashion the next. The ongoing planning and design work related to the trail extension project identified changes to the parking supply in terms of a range of potential parking loss rather than as a detailed, absolute change, the latter being difficult to quantifiably describe due to the changing nature of the parking inventory.

To identify potential impacts to the parking supply along the Shilshole segment, a parking inventory and parking occupancy analysis was conducted in May 2010, with additional field measurements for parking inventory conducted in September 2010. In addition, the study examined parking capacity in public lots near the Shilshole segment to determine the availability of parking to meet any displaced demand.

APPROACH

Parking facility characteristics can be expressed by means of several measurements. The capacity is the total number of spaces in which vehicles can be parked. The capacity is comprised of the occupancy, the total number spaces occupied, and the supply, the number of open spaces. The demand represents the number of vehicles with operators desiring to park and it is not necessarily equal to the occupancy and may exceed the capacity. Utilization is one way of expressing satisfied demand, and is calculated to be the percentage of parking capacity occupied by parked vehicles.

A three-step methodology was employed to determine the potential loss of parking within the Shilshole segment. This three-step process expanded on past study efforts by recording more than just parking occupancy, as it also examined parking inventory and the potential loss of parking.

First, parking occupancy was observed, producing data on how many vehicles were parked in a given section for various selected times throughout the week. The parking occupancy is not a

measure of demand nor is it a measure of utilization; it is simply a measure of the number of vehicles in a parked state occupying a given area.

Second, the parking capacity within the Shilshole segment was determined by estimating the number of available, feasible parking spaces. The parking capacity values are not intended to represent supply (the number of spaces remaining available in a given scenario), but rather indicate the maximum number of available spaces created by the most efficient scenario of parked vehicle arrangements. The capacity was determined by means of several methods, including counts taken under nearly-full utilization, an estimate based on an assumed vehicle length, and an estimate based on repeated site visits under differing conditions to determine the impacts on capacity utilization characteristics due to vehicle type and dwell time.

Finally, an assessment was made of impacts to available space within the City right-of-way due to placement of a trail along the south side of Shilshole Ave NW between 17th Ave NW and NW Vernon Pl. The estimate of spaces lost to trail construction was used to adjust the value obtained for capacity and determine the potential impacts to parking supply.

DATA COLLECTION AND MEASUREMENT

Parking occupancy data were collected by examining midday, late-afternoon, and weekend evening parking occupancy. Three separate field surveys to collect parking occupancy data were conducted in late May 2010 and are summarized in Table 1, below. Those three field surveys included all of the counts for the locations identified in Table 2 (page 4).

Table 1. Parking Occupancy Data Collection Schedule

	Parking Count 1	**Parking Count 2**	**Parking Count 3**
Date	Thursday May 20, 2010	Friday May 21, 2010	Tuesday May 25, 2010
Time	4:00 - 5:00 PM	8:00 - 9:00 PM	10:30 - 11:30 AM

The midday parking occupancy counts (Count 1 and Count 3) were assumed to be reasonably representative of expected parking occupancy throughout a typical work week in which general business, industrial, retail, and commercial activity would occur. The Friday evening count (Count 2) was intended to be representative of the demand due to activity period in the retail and entertainment district to the north and west of the Shilshole segment.

Parking capacity data were collected by means of a combination of field survey and aerial photograph investigation. Preliminary data were compiled by assuming vehicle lengths of 25 linear feet and measuring distances along the alignment to estimate the number of parked vehicles that could be accommodated.

In the Shilshole segment, due to the unorganized and flexible nature of parking, it was determined that several field surveys would need to be conducted to understand the changes in parking space

availability throughout the course of a given day or week. Parking capacity in this area rarely remains fixed and utilization can therefore vary widely even under minor variations in demand. Field investigations revealed that certain parking behaviors created scenarios where the expected parking supply was reduced. These behaviors included parking of large commercial vehicles for deliveries, parking of passenger vehicles in front of loading facilities that were rendered available only on a part-time basis, and off-peak and short-term placement and storage in parking spaces of commercial shipping materials, such as pallets and mobile storage tanks.

Two study methodology determinations were made to maximize the apparent loss of parking capacity. First, the value for the maximum number of spaces available, as observed in field measurements, was used to generate the values for parking capacity. Secondly, the parking occupancy data used to assess the effects of the parking capacity loss were taken from the peak utilization period, which, for the Shilshole segment, was found to be the data from Count 3.

GENERAL FINDINGS

The results of the parking assessment indicate that construction of the trail along the south side of the Shilshole segment could potentially result in the removal of up to 91 parking spaces. The actual displacement of parked vehicles is likely to be less than 91 since parking utilization is not uniformly high and potential supply reductions may be less than observed supply. In the table below, net parking loss is expressed as a range of potential loss, based on actual parking utilization and potential future capacity. A net gain of parking against utilization is expressed as zero net loss of parking.

Table 2. Parking Occupancy, Capacity, and Potential Loss of Capacity – Shilshole Segment

Shilshole Ave NW (17th Ave NW to NW Vernon Pl)	Side of Street (dir of travel)	Midday Parking Count	Current Parking Capacity[1]	Projected Parking Capacity[1]	Potential Loss of Parking Capacity
17th Ave NW to NW Dock Pl	EAST (NWB)	21	31	25	0 - 6
	WEST (SEB)	17	63	4	13 - 59
NW Dock Pl to 20th Ave NW	EAST (NWB)	7	8	6	1 - 2
	WEST (SEB)	2	2	2	0
20th Ave NW to NW Vernon Pl	EAST (NWB)	18	47	31	0 - 16
	WEST (SEB)	6	18	10	0 - 8
TABULATED ESTIMATE	**EAST (NWB)**	**46**	**86**	**62**	**0 - 24**
	WEST (SEB)	**25**	**83**	**16**	**9 - 67**
COMPILED ESTIMATE		**71**	**169**	**78**	**0 - 91**
Diamond Parking LOT		9	133	133	**0**
Shilshole and Vernon LOT		14	16	16	**0**

[1] *Parking capacity is based on field investigations of parking supply and is conformed to peak parking occupancy observed from multiple field surveys.*

The values for potential loss of parking capacity in the table represent a range of potential parking loss based on actual occupancy counts (low end) and potential parking loss based on the maximum parking capacity (high end). The range of potential parking loss represents the difference between parking utilization and parking capacity (effectively, the range represents parking supply, the unused portion of parking capacity in a given section). Negative numbers are not used to indicate that a section is underutilized or where a net gain in parking would occur, but the aggregate section utilization values were used to compute the overall potential net loss of parking capacity, which is less than the sum of all section losses because of variability in utilization across the sections.

Two publicly-available lots, the Diamond Parking facility near 24th Ave NW and Shilshole Ave NW and the corner lot at Shilshole Ave NW and NW Vernon Place, will not incur a parking loss due to construction of a trail along this alternative alignment. These lots, with a capacity of nearly 150 and very low utilization, collectively increase the supply of parking by approximately 130 spaces.

Even excluding the publicly-available Diamond Parking and corner lots, the parking occupancy in the area is generally less than available existing capacity, indicating a substantial available supply under present conditions. Even were utilization of all available parking capacity to occur, the loss of parking supply would not exceed 91 spaces. Various options for free and fee-based parking exist in the neighborhood area and it is reasonable to expect some displaced demand.

It should be noted, however, that utilization to a high degree would begin to severely restrict business access and delivery flexibility, thus reducing demand for parking in the immediate vicinity (as drivers would search for more expedient alternatives nearby). Such utilization was not witnessed during the survey period. Furthermore, in the process of identifying parking capacity that would remain following the construction of the trail, this assessment was conservative and identified all parking spaces in front of or adjacent to delivery areas and building access points and eliminated those spaces from consideration as future capacity. This means that spaces regularly used today when deliveries are not taking place are considered unavailable, but does not assume preclusion of uses in the future that closely mirror the types of use experienced today.

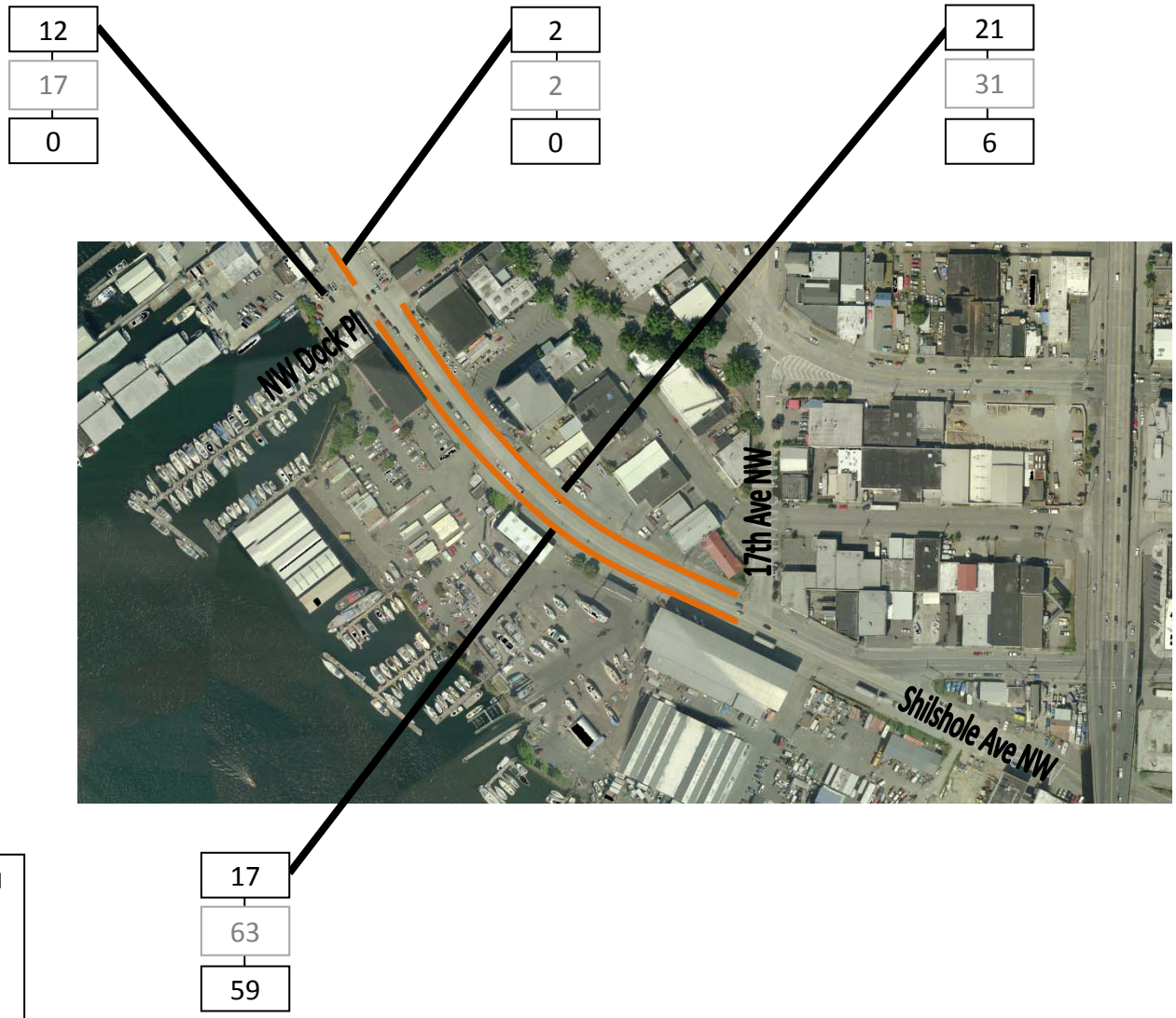
Based on the current utilization, the available parking capacity along the Shilshole segment appears to be sufficient to satisfy typical weekday parking demands even if the maximum potential loss of parking were incurred as a result of trail construction along this segment.

CONCLUSIONS

Assessment of parking utilization indicates that available supply is adequate and the inventory along the Shilshole segment experiences a low utilization overall. The estimate of lost spaces is expressed as a range of potential parking loss along the portions of the Shilshole segment that would be affected by the construction of a trail. This means that construction of a trail in the Shilshole segment could be expected to displace up to 91 units of demand.

However, parking utilization in this area would have to increase significantly for the loss of available parking (that is, loss of supply, from unused capacity) to approach the estimate of 91 vehicle spaces. It is therefore appropriate to infer that displaced demand can be accommodated by a combination of private off-street parking and use of public lots in the vicinity of the study area.


Shilshole Ave NW
22nd Ave NW
NW Vernon Pl
20th Ave NW
22
133
0
14
16
0
18
47
16
7
8
2
6
18
8
27 PARKING UTILIZATION WITHIN SEGMENT
42 AVAILABLE SPACES WITHIN SEGMENT
16 PARKING LOSS WITHIN SEGMENT



27	PARKING UTILIZATION WITHIN SEGMENT
42	AVAILABLE SPACES WITHIN SEGMENT
16	PARKING LOSS WITHIN SEGMENT