Bonnie Gee Yosick llc
Economic and Policy Analysis

May 2010

Targeted Lake Oswego to Portland Streetcar Redevelopment Analysis: Carolina to Nevada Streets

Prepared for:

Jamie Snook, Metro
Doug Obletz, Shiels Obletz & Johnsen

With GIS support by Alan Gunn, Metro Planning Department

Telephone: 503.288.3336
Facsimile: 503.280.0495
bonnie@geeyosick.com

TABLE OF CONTENTS

Introduction 1
Background 1
The Analytic Framework 2
Differences between Westside and Johns Landing Areas 2
Review of Original Results 3
Macadam (Carolina) Alignment 3
Willamette Shore Line Alignment 4
Targeting the Analytic Universe 5
Parcel Selection 5
Empirical Difference Between Alignments: Carolina to Nevada Streets 6
Implications of the Differences 8
Conclusion 12

LIST OF TABLES

Table 1 Estimated New Housing Units, Population, and Employees Accommodated by New Development, Macadam (Carolina) Alignment Alternative 4
Table 2 Estimated New Housing Units, Population, and Employees Accommodated by New Development, Willamette Shore Line Alignment Alternative 4
Table 3 Difference in Redevelopment Potential, Entire Johns Landing Area 5
Table 4 Aggregate Land Area and Number of Parcels within Study Areas 6
Table 5 Targeted Study Area Between Carolina and Nevada Streets, Original Full Macadam Alignment Alternative, Estimated New Housing Units, Population, and Employees Accommodated by New Development 7
Table 6 Targeted Study Area Between Carolina and Nevada Streets, Willamette Shore Line Alignment Alternative, Estimated New Housing Units, Population, and Employees Accommodated by New Development 7
Table 7 Estimated New Housing Units, Population, and Employees Accommodated by New Development, by Alignment Alternative, Carolina to Nevada Streets 8
Table 8 Existing Number of Dwelling Units and Jobs Accommodated 10

LIST OF FIGURES

Figure 1 Targeted Study Area, Between Carolina and Nevada Streets 6

Figure 2 Estimated Housing Units Developed, Targeted Study Area Between Carolina and Nevada Streets..... 9

Figure 3 Estimated Jobs Accommodated, Targeted Study Area Between Carolina and Nevada Streets 9

Figure 4 Difference in Estimated Development Between Carolina and Nevada Streets as a Proportion of Estimated Development along Macadam 10

Figure 5 Difference in Estimated Development Between Carolina and Nevada Streets as a Proportion of Existing Development Between Carolina and Nevada Streets. 11

Figure 6 Difference in Estimated Development Between Carolina and Nevada Streets as a Proportion of Existing Development in Johns Landing..... 11

INTRODUCTION

This document describes a refinement of the redevelopment analysis applied to the Johns Landing portion of the Lake Oswego to Portland Transit Project (LOPT). The purpose of the analysis is to more closely examine the redevelopment potential associated with the streetcar alternative in a targeted study area between Carolina and Nevada Streets.

BACKGROUND

Planning for the LOPT streetcar line is moving through the DEIS process. During the alternatives analysis, the "full Macadam" alignment had been previously eliminated from the range of options being considered for streetcar development, but is now being re-considered.

The reconsideration of this alignment has several policy-level implications, including:

- The eligibility of proposed alignments for federal matching funds;
- The availability and amount of other local revenue sources should federal matching funds not be realized; and
- The degree to which increased visibility and connectivity provided by a Macadam streetcar alignment may or may not be realized by a Willamette Shore Line alignment or other "hybrid" alignments.

This analysis clarifies issues related to applying the westside development experience to the isolated Johns Landing area. From an empirical standpoint, it isolates the differences between the alignments in the Johns Landing Area between Carolina and Nevada streets (the "*targeted study area*"), highlighting the differences within the targeted study area related to redevelopment potential between the Macadam and Willamette Shore Line alignments. And finally, it provides context for what those differences mean in terms of estimated redevelopment potential and existing development in the Johns Landing area.

This analysis utilizes the dataset[1] developed for the ***Lake Oswego to Portland Streetcar Development Impacts Analysis*** (originally conducted in 2007 and updated in 2009). Those analyses applied a methodology first developed by E.D. Hovee & Company to quantify the development trends from the westside experience[2] as part of the analytic work for the Eastside Streetcar, summarized in the document entitled ***Portland Streetcar Development Impacts***, November 2005.

These analyses applied the westside development experiences to project the amount of

[1] This dataset originated from RLIS (Regional Land Information System—Metro's Geographic Information System).

[2] The study area for the westside experience was defined as all blocks within the Central City west of the Willamette River within one, two and three blocks from streetcar. It includes the Central City plan subdistricts of the River District, the Northwest Triangle, Downtown, and University District.

potential building development and amount of land developed by year 2025. By using a relative approach, the analysis was able to apply the westside development experiences to the very different development environments of Johns Landing and Lake Oswego by calculating a ***maximum FAR*** allowed under current development regulations and then applying an ***FAR realized*** to that maximum. FAR realized was calculated as a relative term—as a percentage of maximum density.

Existing and potential square footage are analyzed in aggregate on a geographic level (within one, two, or three blocks of streetcar). Though this exercise analyzes parcel-specific data, it does not identify lots mostly likely to redevelop—but rather aggregates existing and potential square footage and allocates a redevelopment rate to each geography (within one block, two blocks, or three blocks from the proposed streetcar alignment) as a whole—rather than to specific taxlots.

This analysis is intended to demonstrate the development potential of the areas adjacent to proposed streetcar, allowing a comparison of that development potential among the alignment alternatives being considered. It does not assert causality between streetcar and development, nor does it attempt to address the many factors that influence development or the dynamic forces affecting the market for the many different land uses in the study areas.

THE ANALYTIC FRAMEWORK

The objectives of this current analysis are:

1) To clarify issues related to the Lake Oswego to Portland Streetcar redevelopment analysis in the Johns Landing area;
2) To compare the difference in redevelopment potential between the alignments in the targeted area between Carolina and Nevada streets; and
3) To provide context for what the difference in redevelopment potential in the targeted area means within the realm of the Johns Landing area.

DIFFERENCES BETWEEN WESTSIDE AND JOHNS LANDING AREAS

As noted in the 2007 and 2009 efforts, the character and type of development in the westside differs dramatically from that of these study areas. Some of the differences include the following:

- **Estimated FAR[3] based on zoning/development designations**: Westside FAR was calculated at 6.0 and eastside at 5.5, compared to less than 2.0 in the Johns Landing area.

[3] FAR is defined as the ratio of total combined floor area of all floors of building—with several exclusions such as vent shafts, courtyards, decks, and parking—to the land area of the site.

- **Presence of urban renewal or related designations:** The westside study area enjoyed an urban-renewal designation not applicable in Johns Landing.
- **Presence of density bonuses:** The westside study area enjoyed density bonuses not applicable in Johns Landing.
- **Presence and uniformity of street-grid pattern:** Streets in both westside and eastside study areas follow a standard street-grid pattern. Macadam's angled trajectory necessitated the establishment of a 230 downtown-equivalent block length.
- **Quality of existing pedestrian environment:** The street-grid pattern in the westside and eastside areas provides connectivity and walkability not matched in the Johns Landing area.
- **Presence and adjacency of established single-family residential areas:** Unlike the westside and eastside study areas, the Johns Landing area includes established residential areas within three blocks of the streetcar alignment, which were excluded from the analysis.
- **Overall development environment**: Together, these factors create a very different development environment in Johns Landing from the one in the westside or eastside streetcar areas.

REVIEW OF ORIGINAL RESULTS

The original dataset for the Johns Landing study area consisted of around 750 taxlots within 690 feet from any alignment being considered. Staff from the City of Portland Office of Transportation (PBOT) identified 198 taxlots totaling over 15.5 million square feet (or nearly 357 acres) of land area, which were excluded from the analysis.[4]

Macadam ("Carolina") Alignment

The alignment closest to the Macadam alignment being considered for the DEIS is the "Carolina" hybrid alignment whose study area includes 476 parcels which are redevelopment candidates for this analysis. Applying the annual development rate from the westside experience and the maximum FAR provided by PBOT suggests an additional 1.8 million square feet of building developed by year 2025. The disaggregation of that projected development to residential or nonresidential use was based on an analysis by the PBOT of recent development patterns in commercial zones.[5]

[4] Parcels were excluded for a variety of reasons: Three parcels with active development applications were excluded, 40 parcels in public use (BES facility, boat dock, cemetery, civic use, open space, PGE facility, TriMet) were excluded, and 155 parcels with residential zoning (R2.5, R3, R5, R10, and R20) were excluded.

[5] PBOT reviewed the distribution of uses based on GIS records for recent development in the Central City (including the Johns Landing area) and determined that on a square-footage basis, approximately 38 percent of recent development on lands designated commercial or mixed-use was for residential use.

Table 1 summarizes the projected redevelopment along the Macadam Alignment Alternative.

Table 1
Estimated New Housing Units, Population, and Employees Accommodated by New Development, Macadam (Carolina) Alignment Alternative

	Land SF in redevelopment Lots	Added building SF by 2025	Projected Housing Units	Projected New Population	Projected Commercial SF	Jobs Accommodated
0-1 block	3,813,069	1,654,000	630	945	1,025,000	2,050
1-2 blocks	1,435,566	127,000	70	105	55,000	110
2-3 blocks	953,283	46,000	40	60	5,000	10
Total	**6,201,918**	**1,827,000**	**740**	**1,110**	**1,085,000**	**2,170**

Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

Willamette Shore Line Alignment

The Willamette Shore Line Alignment study area included 354 parcels which are redevelopment candidates for the analysis. Applying the annual development rate from the westside experience and the maximum FAR provided by PBOT suggests an additional nearly an additional 1.6 million square feet of building by year 2025. Table 2 summarizes the projected redevelopment along the Willamette Shore Line Alignment Alternative.

Table 2
Estimated New Housing Units, Population, and Employees Accommodated by New Development, Willamette Shore Line Alignment Alternative

	Land SF in redevelopment lots	Added building SF by 2025	Projected Housing Units	Projected New Population	Projected Commercial SF	Jobs Accommodated
0-1 block	3,524,237	1,407,000	540	810	870,000	1,740
1-2 blocks	1,055,733	84,000	40	60	45,000	90
2-3 blocks	989,635	72,000	40	60	30,000	60
Total	**5,569,604**	**1,563,000**	**620**	**930**	**945,000**	**1,890**

Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

For the entire Johns Landing area, the analysis suggests more redevelopment potential for the Macadam Alignment Alternative, 1.96 million square feet of additional building development, compared to 1.56 million square feet for the Willamette Shore Line Alignment Alternative, as shown in Tables 1 and 2. This result is generally due to the greater amount of land square footage in the study area defined by the Macadam Alignment Alternative, 6.45 million square feet compared to 5.57 million square feet in the Willamette Shore Line Alternative. The higher projected building square footage for the Macadam Alignment Alternative translates to more housing units and employment capacity for the Macadam Alignment Alternative than the Willamette Shore Line Alignment Alternative.

For both alignment alternatives, over half of the land area in redevelopment lots is located within one block of the streetcar alignment, stepping down the land area square footage for blocks 2 and 3, as shown in Tables 1 and 2. Coupled with the higher rate of development being applied and higher percentage of FAR realized in block 1, this concentration results in the vast majority of the expected development projected in block 1 for both alignment alternatives. The greater amount of projected building square footage in the Macadam Alignment Alternative translates to a higher number of projected housing units and jobs capacities. The difference in redevelopment potential for the entire Johns Landing area is shown below in Table 3.

Table 3
Difference in Redevelopment Potential, Entire Johns Landing Area

	Land SF in redevelopment Lots	Added building SF by 2025	Projected Housing Units	Projected New Population	Projected Commercial SF	Jobs Accommodated
Macadam (Carolina)	6,201,918	1,827,000	740	1,110	1,085,000	2,170
Willamette Shore Line	5,569,604	1,563,000	620	930	945,000	1,890
Difference	632,314	264,000	120	180	140,000	280

Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

As shown in Table 3, the differences in redevelopment potential are estimated to total approximately 120 housing units and 280 jobs accommodated over the entire length of the Johns Landing study area, from Lowell Street to the Sellwood Bridge.

TARGETING THE ANALYTIC UNIVERSE

The purpose of the new analytic work is to isolate empirical differences related to redevelopment potential between the two primary alignments in the targeted study area between Carolina and Nevada streets.

Parcel Selection

Metro's GIS staff identified the parcels within the dataset in the targeted study area. The targeted study area was defined as the all redevelopment parcels between Carolina and Nevada Streets, shown in Figure 1.

Figure 1
Targeted Study Area, Between Carolina and Nevada Streets

Source: Metro.

The length of the targeted study area, measured in GIS as the distance between Carolina and Nevada streets, is 2,092 feet. Table 4 shows the distribution of the number of parcels and the aggregated land area of those parcels for the targeted study area and the entire original Johns Landing study area.

Table 4
Aggregate Land Area and Number of Parcels within Study Areas

	Aggregate Square Footage	Acres	Number of Parcels
Targeted Study Area (Carolina to Nevada street)	1,003,479	23.04	161
Entire Johns Landing Study Area	7,041,061	161.64	516

Source: RLIS, City of Portland Office of Transportation, Metro, and Bonnie Gee Yosick LLC.

As shown in Table 4, the Carolina-to-Nevada targeted study area includes about 29 percent of the number of parcels in the study area, but less than 15 percent of the land area.

Empirical Difference Between Alignments: Carolina to Nevada Streets

The targeted study area between Carolina and Nevada streets consists of 161 parcels containing about 23 aggregate acres of land. Using the designation of parcels within 1, 2, or 3 blocks from the alignments from the original analysis, the following table shows the total land square footage, projected building development by 2025, and the resulting new

housing units, population, and jobs accommodated within the targeted study area along the Macadam alignment.

Table 5
Targeted Study Area Between Carolina and Nevada Streets, Original Full Macadam Alignment Alternative, Estimated New Housing Units, Population, and Employees Accommodated by New Development

	Land SF in redevelopment lots	Added building SF by 2025	Projected Housing Units	Projected New Population	Projected Commercial SF	Jobs Accommodated
0-1 block	603,067	397,000	170	250	229,000	460
1-2 blocks	349,828	31,000	30	50	500	0
2-3 blocks	50,584	3,000	0	0	0	0
Total	**1,003,479**	**431,000**	**200**	**300**	**229,500**	**460**

Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

As shown in Table 5, 431,000 square feet of the projected development along the Macadam alignment by 2025 could be expected within the targeted study area. Applying the residential/non-residential split from the previous analysis of recent development patterns in commercial and mixed-use zones suggests that development will accommodate an additional 200 housing units (and—at an estimated household size of 1.5 persons per household—300 people) and an additional 460 jobs in nonresidential development.

Again focusing on the same area, but using the designation of parcels within 1, 2, or 3 blocks of the Willamette Shore Line alignment, yields the total land square footage, projected building development by 2025, and the resulting new housing units, population, and jobs accommodated within the targeted study area along the Willamette Shore Line alignment, as shown in Table 6.

Table 6
Targeted Study Area Between Carolina and Nevada Streets, Willamette Shore Line Alignment Alternative, Estimated New Housing Units, Population, and Employees Accommodated by New Development

	Land SF in redevelopment lots	Added building SF by 2025	Projected Housing Units	Projected New Population	Projected Commercial SF	Jobs Accommodated
0-1 block	442,040	287,000	110	160	178,000	360
1-2 blocks	279,601	33,000	20	30	12,500	30
2-3 blocks	264,310	17,000	20	30	500	0
Total	**985,951**	**337,000**	**150**	**220**	**191,000**	**390**

Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

As shown in Table 6, the 337,000 square feet of the projected development along the Willamette Shore Line alignment by 2025 could be expected between Carolina and Nevada streets. Applying the standard assumptions for residential/non-residential split,

job capacity, and household size, this development would accommodate about 150 new housing units, 220 persons, and 390 jobs.

The difference between development potential for the two alignments within the targeted study area between Carolina and Nevada streets suggested by the redevelopment analysis is shown in Table 7.

Table 7
Estimated New Housing Units, Population, and Employees Accommodated by New Development, by Alignment Alternative, Carolina to Nevada Streets

	Land SF in redevelopment lots	Added building SF by 2025	Projected Housing Units	Projected New Population	Projected Commercial SF	Jobs Accommodated
Macadam	1,003,479	431,000	200	300	229,500	460
Willamette Shore Line	985,951	337,000	150	220	191,000	390
Difference	**17,528**	**94,000**	**50**	**80**	**38,500**	**70**

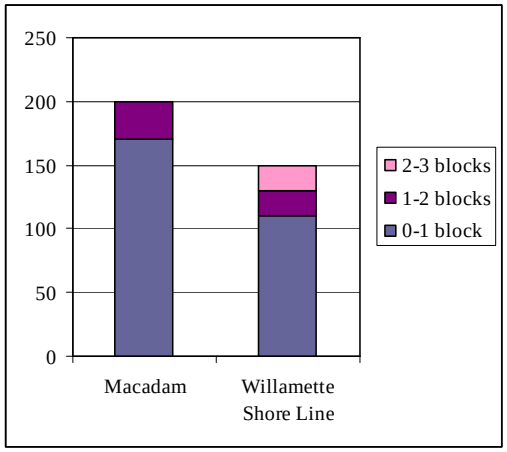
Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

As shown in Table 7, redevelopment potential in the targeted study area between Carolina and Nevada streets suggested by this analysis is about one-quarter higher along the Macadam alignment than the Willamette Shore Line alignment. The difference would yield about 70 jobs and 50 housing units or 80 residents, under the standard household size and job capacity assumptions.

IMPLICATIONS OF THE DIFFERENCES

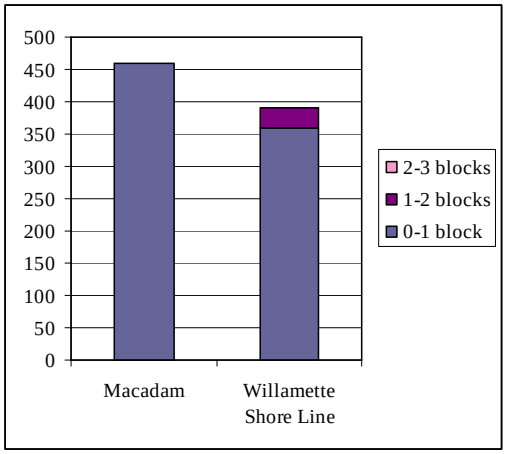
As the previous analyses demonstrate, the land area and development potential in the Johns Landing Area estimated along Macadam is higher than that along the Willamette Shore Line, but the extent of these differences varies in different segments of the Johns Landing Area. Between Carolina and Nevada streets, this analysis estimates these differences to total an aggregate of 50 housing units and about 70 jobs accommodated, as shown in Table 7 in the previous section. These differences are shown graphically in Figures 3 and 4 below.

Figure 2
Estimated Housing Units Developed, Targeted Study Area Between Carolina and Nevada Streets



Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

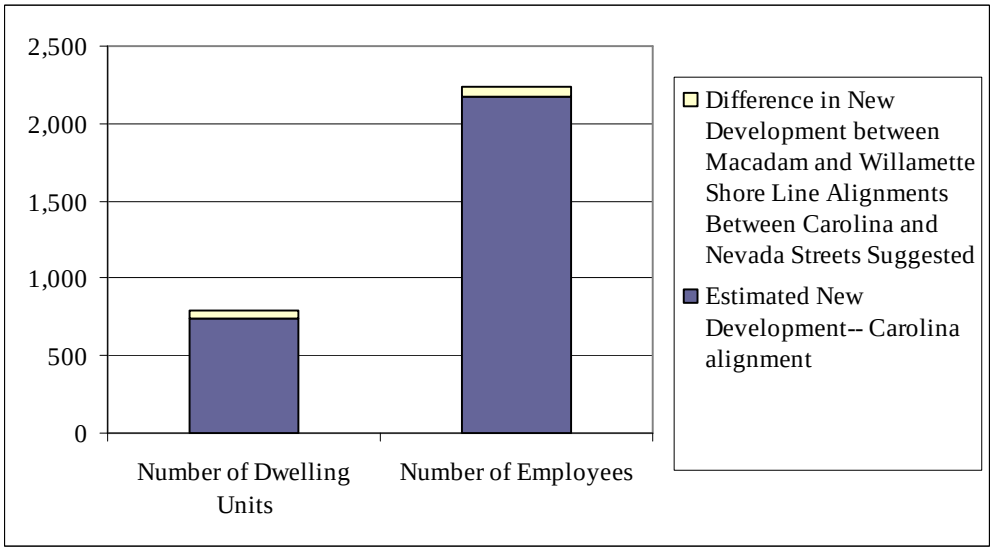
Figure 3
Estimated Jobs Accommodated, Targeted Study Area Between Carolina and Nevada Streets



Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

But what does the difference of 50 housing units and 70 jobs accommodated mean in the context of the overall development potential in the Johns Landing area? In the context of the redevelopment analysis for the entire Johns Landing area, 50 housing units represents approximately 7 percent of the total housing units estimated along the Carolina (Macadam) alignment. In the same vein, 70 jobs accommodated represents just over 3 percent of the jobs accommodated along the entire alignment, as shown graphically in Figure 4.

Figure 4
Difference in Estimated Development Between Carolina and Nevada Streets as a Proportion of Estimated Development along Macadam



Source: RLIS, City of Portland Office of Transportation, and Bonnie Gee Yosick LLC.

A review of existing land uses provides additional context. Within the targeted study area (between Carolina and Nevada streets), there are an estimated 374 dwelling units and 959 employees. Within the 1,766 parcels in the entire Johns Landing area (between Lowell Street and the Sellwood Bridge—from the Willamette River on the east to I-5 on the west), there are an estimated 1,837 dwelling units and an estimated 4,779 employees, as shown in Table 8.

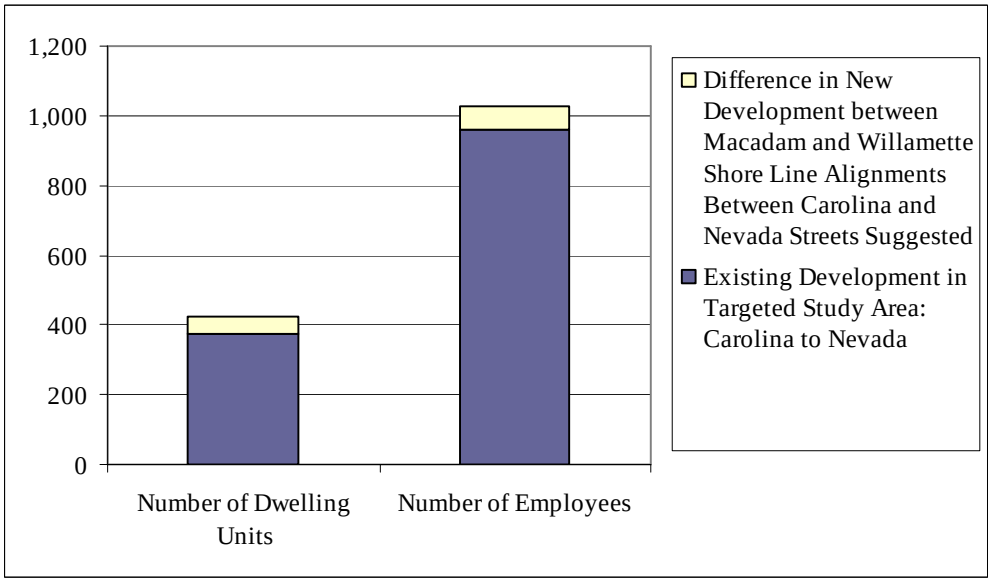
Table 8
Existing Number of Dwelling Units and Jobs Accommodated

	Number of Parcels	Number of Dwelling Units	Number of Employees
Johns Landing Area (Lowell Street to Sellwood Bridge)	1,766	1,837	4,779
Targeted Study Area: Carolina to Nevada	400	374	959

Source: Metro.

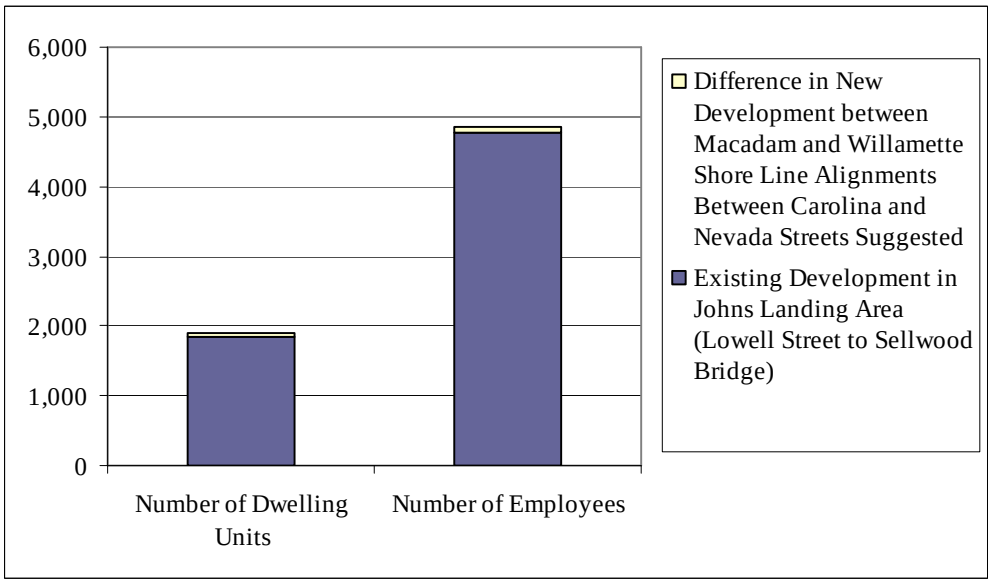
As such, a difference of 50 dwelling units represents approximately 13 percent of the total existing dwelling units in the targeted study area between Carolina and Nevada streets, or less than three percent of the total dwelling units in the entire Johns Landing area. The difference of 70 employees represents about seven percent of the total existing employees estimated within the targeted study area, or less than two percent of the total existing employees within the Johns Landing area, as shown in Figures 5 and 6 below.

Figure 5
Difference in Estimated Development Between Carolina and Nevada Streets as a Proportion of Existing Development Between Carolina and Nevada Streets



Source: RLIS, City of Portland Office of Transportation, Metro, and Bonnie Gee Yosick LLC.

Figure 6
Difference in Estimated Development Between Carolina and Nevada Streets as a Proportion of Existing Development in Johns Landing



Source: RLIS, City of Portland Office of Transportation, Metro, and Bonnie Gee Yosick LLC.

CONCLUSION

This analysis zeros in on the development potential of a portion of that Johns Landing area analyzed—a targeted area between Carolina and Nevada streets. It compares the differences in development potential between the two alignment alternatives, and the differences in development potential between this targeted study area and an equivalent length portion of the alignment immediately south of the Boundary Street station for the Macadam alignment. Finally, it provides context for the difference in the redevelopment potential between the alignments in the targeted study area by comparing the difference to the total redevelopment potential in the Johns Landing area and to the number of existing dwelling units and jobs in the targeted study area, and the entire Johns Landing area.

In the context of the entire Johns Landing area, the difference in housing units and jobs accommodated within the targeted study area between Carolina and Nevada streets represents but a fraction of the redevelopment potential in the Johns Landing area. The difference in redevelopment potential in the targeted study area is equivalent to six to seven percent of total housing-unit capacity and just over percent of jobs capacity relative to the redevelopment analysis for the Johns Landing area.

Similarly, the difference represents a small fraction of existing development, both in terms of the targeted study area and in the Johns landing area overall, between Lowell Street and the Sellwood Bridge. Relative to the existing dwelling units, the difference of 50 housing units between the alignments in the targeted study area represents 13 percent of total dwelling units between Carolina and Nevada streets, and less than three percent of total dwelling units in the Johns Landing area. Relative to existing jobs, the difference of capacity for 70 employees between alignments in the targeted study area represents seven percent of the total existing employees between Carolina and Nevada streets, and less than two percent of total existing employees within the Johns Landing area.

Though there is a difference in development potential in the targeted study area, these differences are small in the context of overall redevelopment potential and overall existing land uses in the Johns Landing area. The larger differences related to redevelopment potential are north of Carolina Street.