Appendix H
Bel-Red Corridor Public Services and Utilities Back-Up Data Tables

APPENDIX H

Bel-Red Corridor Public Services and Utilities Back-Up Data Tables

This appendix provides additional technical information regarding the Public Services and Utilities existing conditions and potential future scenarios under the No-Action and Action Alternatives.

Schools

TABLE F-1
School Enrollment, Capacity, and Rebuild Plans in Schools Serving Bel-Red Corridor Study Area
Bel-Red Corridor Draft Environmental Impact Statement

School	2005-2006 Enrollment	Current Capacity	Rebuild Plans
Elementary Schools			
Ardmore	281	338	Rebuild in 2008-09.
Sherwood Forest	330	317	Rebuild in 2007-08.
Stevenson	514	422	No plans; school at capacity and four classrooms were added in 2003.
Woodridge	382	380	Rebuild currently under way (2006).
Middle Schools			
Highland	488	790	No plans; current enrolment at about 60-percent capacity.
Odle	690	705	No plans.
Chinook	820	803	No plans; school at capacity.
High Schools			
Interlake	775	1,366	Building is new; current enrollment at about 60-percent capacity.
Sammamish	1,201	1,550	No plans; current enrollment at about 75-percent capacity.
Bellevue	1,492	1,420	No plans other than Performing Arts Center; school at capacity.

TABLE F-1
School Enrollment, Capacity, and Rebuild Plans in Schools Serving Bel-Red Corridor Study Area
Bel-Red Corridor Draft Environmental Impact Statement

School	2005-2006 Enrollment	Current Capacity	Rebuild Plans

Sources: Bellevue School District, 2006; Lindberg, 2006.

Utilities

TABLE F-2
Net New Electric Power Peak Demand for Each Proposed Alternative by Land-Use Type at Buildout Year 2030
Bel-Red Corridor Draft Environmental Impact Statement

Alternative		Electric Power Peak Demand (MW)[1] Year 2030
No-Action Alternative	Office	3.5
	Retail	0.7
	Light Industrial	1.4
	Subtotal No-Action	**5.6**
Alternative 1	Office	18.6
	Retail	1.7
	Light Industrial	-12.1
	Residential	15.9
	Subtotal Alternative 1	**24.1**
Alternative 2	Office	13.3
	Retail	1.1
	Light Industrial	-8.9
	Residential	22.8
	Subtotal Alternative 2	**28.3**
Alternative 3	Office	23.2
	Retail	2.8
	Industrial	-11.2
	Residential	22.8
	Subtotal Alternative 3	**37.6**

[1]Electric demand calculations based on following assumptions: 5.8W per office square foot (ft^2); 5.5W per retail ft^2; 3.8W per residential ft^2; 4.5W per industrial ft^2; average household size of 1,200 ft^2 per multifamily unit.
Load factors used in this table are based on energy utilization records from a variety of sources, including PSE and the U.S. Department of Energy, with values normalized to the Northwest region (see Port of Seattle, 2005).

TABLE F-3
Net New Annual Natural Gas Utilization for Each Proposed Alternative at Buildout Year 2030
Bel-Red Corridor Draft Environmental Impact Statement

	Alternative	Annual Natural Gas Utilization (MBTU)[1] Year 2030
No-Action Alternative	Office	18,195
	Retail	4,092
	Light Industrial	4,800
	Subtotal No-Action	**27,087**
Alternative 1	Office	96,000
	Retail	9,900
	Light Industrial	-43,025
	Residential	113,400
	Subtotal Alternative 1	**176,275**
Alternative 2	Office	69,000
	Retail	6,600
	Light Industrial	-31,671
	Residential	162,000
	Subtotal Alternative 2	**205,929**
Alternative 3	Office	120,315
	Retail	16,500
	Light Industrial	-39,799
	Residential	162,000
	Subtotal Alternative 3	**259,016**

[1]Annual natural gas demand calculations based on following assumptions: 30,000 BTU per office ft^2; 33,000 BTU per retail ft^2; 16,000 BTU per light industrial ft^2; 27,000 BTU per residential ft^2; average size of 1,200 ft^2 per multifamily unit.
Load factors used in this table are based on energy utilization records from PSE and the U.S. Department of Energy, with values normalized to the Northwest region (see Port of Seattle, 2005).

TABLE F-4
Projected Increased Water Demand for Each Proposed Alternative at Buildout Year 2030
Bel-Red Corridor Draft Environmental Impact Statement

	No-Action Alternative	Alternative 1	Alternative 2	Alternative 3
Residential Development (gpd)[1]	0	504,000	720,000	720,000
Commercial Development (gpd)[2]	65,745	315,000	225,000	405,000
Industrial Development (gpd)[2]	27,000	-242,000	-178,150	-223,850
Total Flow (mgd)	0.09	0.58	0.77	0.90

gpd gallons per day
[1]Water demand flow calculations based on City of Bellevue 2003 statistics for multifamily residences, assuming a household size of 1.8 persons per multifamily unit and 80 gallons per capita per day.
[2]Water demand flow calculations based on City of Bellevue 2003 statistics for commercial and industrial development, assuming 90 gallons per 1,000 ft^2 per day.

TABLE F-5
Projected Increased Wastewater Flows for Each Proposed Alternative at Buildout Year 2030
Bel-Red Corridor Draft Environmental Impact Statement

	No-Action Alternative	Alternative 1	Alternative 2	Alternative 3
Residences (gpcd)[1]	0	441,000	630,000	630,000
Employees (gpcd)[2]	74,200	58,400	37,500	144,900
Total Flow (mgd)	0.07	0.50	0.67	0.77

gpcd gallons per capita per day
[1]Wastewater flow calculations based on City of Bellevue 2003 statistics for multifamily residences, assuming a household size of 1.8 persons per multifamily unit and 70 gallons per capita per day.
[2] Wastewater flow calculations based on City of Bellevue 2003 statistics for commercial and industrial development, assuming 0.0036 employees per square foot of commercial and industrial development and 20 gallons per capita per day.

TABLE F-6
Projected Solid Waste Generation in Annual Tons for Each Proposed Alternative at Buildout Year 2030
Bel-Red Corridor Draft Environmental Impact Statement

	No-Action Alternative	Alternative 1	Alternative 2	Alternative 3
Households[1]	0	2,100	3,000	3,000
Employees[2]	1,842	3,997	2,875	7,388
Total Waste	1,842	6,097	5,875	10,388

[1]Residential solid waste generation calculations assume 0.6 annual tons per multifamily household.
[2]Employee solid waste generation calculations assume 0.7 annual tons per employee.

TABLE F-7
Projected Increase in K-12 School Enrollment, Buildout Year 2030
Bel-Red Corridor Draft Environmental Impact Statement

Alternative	Number of Housing Units	Number of Students[1] Year 2030
No-Action	0	0
1	3,500	770
2	5,000	1,100
3	5,000	1,100

[1]Number of students reflects a ratio of 0.22 students per household; the ratio is derived from U.S. Census data for other similar urban residential districts in the region, as reported in Port of Seattle, 2005.

TABLE F-8
Potential Utility Impacts to Major Transportation System Improvements by Action Alternative
Bel-Red Corridor Draft Environmental Impact Statement

Transportation Improvement	Alternative 1	Alternative 2	Alternative 3	Impacts
Potential Light-Rail Transit Stations and Alignments				
122nd Avenue NE at NE 16th Street Station	■		■	No impact expected.
152nd Avenue NE at NE 24th Street (Redmond) Station	■		■	No impact expected.
116th Avenue NE near Overlake Medical Center Station		■		Could impact a gas main.
130th Avenue NE at NE 16th Street Station		■	■	No impact expected.
West of 148th Avenue NE at NE 20th Street Station		■		No impact expected.
Potential LRT alignments between 148th Avenue NE and I-405	■	■	■	Could impact natural gas mains, two oil piplines, two 115-kV and two 230-kV electric transmission lines, sewer trunk lines, and telephone transmission lines.
Roadway				
Northup Way, construct two-way left-turn lane west of 120th Avenue NE	■	■	■	Could impact a sewer trunk line.
Northup Way, construct eastbound through lane between 120th and 124th Avenues NE	■	■	■	Could impact a 230-kV electric transmission line and a sewer trunk line.
Northup Way and 124th Avenue NE, construct intersection turn pockets	■	■	■	Could impact a 230-kV electric transmission line.
NE 20th Street and 148th Avenue NE, construct intersection turn pockets	■	■	■	Could impact a gas main and a telephone transmission line.
Bel-Red Road and 148th Avenue NE, construct intersection turn pockets	■	■	■	Could impact a gas main and a telephone transmission line.
Bel-Red Road and 124th Avenue NE				Could impact a 230-kV electric transmission line and a telephone transmission line.
Realign 124th Avenue NE to the west and under NE 12th Street	■			
Revise north approach channelization		■		
Construct 5-leg intersection			■	
116th Avenue NE, widen to two lanes in each direction	■	■	■	Could impact a natural gas main, a 115kV electric transmission line, an electric distribution substation, and a future electrical transmission switch station.
120th Avenue NE, widen to five lanes between Northup Way and NE 8th Street	■	■	■	Could impact sewer trunk lines near Northup Way and a telephone transmission line.

TABLE F-8
Potential Utility Impacts to Major Transportation System Improvements by Action Alternative
Bel-Red Corridor Draft Environmental Impact Statement

Transportation Improvement	Alternative 1	Alternative 2	Alternative 3	Impacts
124th Avenue NE, widen to five lanes between Northup Way and Bel-Red Road	■	■	■	Could impact a 230-kV electric transmission line.
130th Avenue NE, widen to four lanes between NE 16th Street and NE 20th Street	■	■	■	No impact expected.
NE 16th Street				
Construct 5-lane roadway, linking to downtown via NE 12th Street	■		■	Could impact two 230-kV and one 115-kV electric transmission lines, a natural gas main, two oil pipelines, and a sewer trunk line.
Construct 5-lane roadway, west terminus at 116th Avenue NE		■		
NE 16th Street east-end treatment with terminus at NE 20th Street				
Reduce 5-lane to 3-lane along 136th Avenue NE	■	■	■	No impact expected.
Continue 3-lane section to NE 20th Street along 136th Avenue NE	■	■	■	
Construct 2-lane nonarterial connection between 136th Avenue NE and Bel-Red Road	■	■	■	
NE 16th Street and Bel-Red Road, develop right-in and right-out access only	■	■	■	Could impact a 115-kV electric transmission line.
NE 10th Street extension, 116th Avenue NE to 124th Avenue NE				Could impact a natural gas main and a 115-kV and a 230-kV electric transmission line.
Construct 3-lane roadway	■	■		
Construct 4-lane roadway			■	
NE 12th Street				
Widen to six lanes between 112th Avenue NE and new NE 16th Street or 116th Avenue NE	■	■	■	Could impact an electric distribution substation, a 115-kV electric transmission line, a gas main, and a main telephone transmission line.
Reduce function class and capacity between new NE 16th Street and 124th Avenue NE			■	Could impact a telephone transmission line, a sewer trunk line, and a 115-kV and a 230-kV electric transmission line.
SR 520 and 124th Avenue NE interchange, construct ramps to and from the east				Could impact a 230-kV and a 115-kV electric transmission line