

C

Market Study - Key Terms and Methodology

This Appendix provides three types of information: (1) definitions of the light rail market segments and station areas; (2) definitions of “market analysis” terms (downward supply, market conditions, and growth projections) used in the *Background Report for Light Rail Station Area Planning in Seattle* and the *Station Area Atlas*; and (3) summary tables of factors used to develop the station area development forecasts and the forecasts themselves.

LIGHT RAIL MARKET SEGMENTS

Market conditions along the light rail alignment were analyzed by first breaking the alignment into eleven market segments, which are comprised of the City of Seattle’s Traffic Analysis Zones (STAZs) located within one-half mile of the light rail system. (see Figure C-1.) Analysis of the general market conditions in the market segments (e.g., projected growth in population/employment and trends in household income, rents, and land values) provides a context for development of station area forecasts.

Light Rail Corridor Market Segments and Potential Station Sites

Market Segment	Potential Stations within Market Segment
Northgate	Northgate (1)
Greenlake-Roosevelt	Roosevelt (2-4)
University	NE 45th Street (5), Campus Parkway (6), Pacific Street (7)
Capitol Hill	Broadway at Roy (8), Capitol Hill (9), First Hill (10)
South Lake Union	Eastlake (11), South Lake Union (12), Seattle Center (13)
Downtown	Convention Place (14), Westlake (15), University Street (16), Pioneer Square (17), International District (18)
Duwamish	E3/Royal Brougham (19), Lander Street (33)
North Rainier/Beacon Hill	Poplar (20), I-90 (21, 28), McClellan (22-23), Beacon Hill (34)
Columbia City	Rainier Valley Square (24), Genesee (25), Columbia City (26) Alaska (29), Edmunds (30)
Holly Park	Graham (27), Othello (31)
Rainier Beach	Henderson (32)

Throw Page – Figure C-1

Map of Market Segment Boundaries

LIGHT RAIL STATION AREAS

Each of the eleven market segments contains one to six light rail station areas. A station area is defined as the aggregate of all parcels located (entirely or in part) within an area of approximately one-quarter mile from the location of one of the 34 potential light rail station sites.

DEFINITION OF MARKET ANALYSIS TERMS

DEMAND CONDITIONS

1997 Population - Derived by multiplying all housing units (as recorded in the 1997 King County Assessor's database) in station areas (or market segments) by occupancy rates/household sizes (as estimated by Puget Sound Regional Council) for tracts represented in market segments, weighted and aggregated to markets according to the 1990 population within a given tract that fell within the market segment boundaries.

1997 Dwelling Units - All dwelling units recorded in the 1997 King County Assessor's database on parcels located (entirely or in part) within a station area or market segment.

1997 Dwelling Units % Multi-family - Calculated by subtracting single-family dwelling units from total dwelling units (as recorded in 1997 King County Assessor's database) in market segments and dividing the difference by total dwelling units.

1990-97 Population Growth Rate - The compound growth rate implicit in the difference between 1990 census counts for market segments (derived by aggregating counts for STAZs) and 1997 estimated population (see above).

1997 Employment - "Covered Employment" (employment covered by Washington State's unemployment insurance program), aggregated to station areas from geo-coded Employment Security records and adjusted for the inclusion of non-covered employment using specific multiplier factors for each category, as provided by PSRC.

Percent of Employment in Trade (FIRE, Government, Services) - Calculated by dividing estimates of total employment in Trade (or FIRE, Government, or Services) by total market segment employment.

GROWTH PROJECTIONS

Projected New Station Area Population - Projected market segment population growth from 1997 to 2020 allocated to station areas, according to the percentage of the total market segment dwelling unit capacity (based on amount of vacant or redevelopable parcels) within a particular station area. For projected market segment population growth, see Summary Table C-2 below.

Projected Population Growth Rate - The compound growth rate implicit in the difference between the 1997 estimated station area population, as detailed above, and the sum of 1997 estimated station area population and projected new station area population to year 2020.

Projected New Station Area Dwelling Units - Derived by multiplying projected new population by current market segment household sizes. Note: this calculation assumes that all new station area dwelling units will be multi-family units and an apartment vacancy rate of 5%.

2020 Residential Density - Projected total station area dwelling units (to year 2020) divided by the net acres in each station area.

Projected New Employment - Projected market segment employment growth from 1997 to 2020 allocated to station areas according to the percentage of total market segment floor area capacity (based on amount of vacant or redevelopable land) within a particular station area. See tables at the end of this Appendix.

Projected Employment Growth Rate - The compound growth rate implicit in the difference between the 1997 estimated station area employment and the sum of 1997 employment and projected new employment by 2020.

Projected New Floor Area - Growth in the floor area necessary to accommodate projected new station area employment is by multiplying projected new jobs in Trade by 400 sq. ft. of floor area per employee, and in "other" jobs by 300 sq. ft. of floor area per new employee. This calculation assumes (1) that all growth in station area employment will occur in either Trade, FIRE, Government, or Services, and (2) that the current ratio of Trade to FIRE/Government/Services will continue to the year 2020.

Projected Floor Area Ratio - The ratio of projected total commercial floor area in the station area over the total net acres in the entire quarter-mile station area not just areas in commercial zone not just areas in commercial zones.

SUPPLY CONDITIONS

Net Acres of Parcels - The total land area of parcels located (entirely or in part) in a station area, as recorded in King County Assessor's database. Note: For the University District station areas, only the portions of the University of Washington campus actually within the station areas were counted.

1997 Dwelling Units per Net Acre - Derived by dividing 1997 dwelling units by the total net acres in the entire quarter-mile station area.

1997 Residential Density - Derived by dividing 1997 dwelling units in multi-family and single-family zones by the net acres of parcels within those zones. Notes: Densities were not calculated for dwelling units in non-residential and downtown zones. The small number of residential units in non-residential and downtown zones would generate low residential density calculations that do not accurately represent the intensity of the built environment.

(2)The net acreage used for density calculation in residential zones includes vacant parcels; the calculation may underestimate the density of actual residential development projects.

1997 Commercial Floor Area - All commercial floor area (retail/service, office) recorded in the 1997 King County Assessor's database for parcels falling (entirely or in part) within a station area.

1997 Floor Area Ratio (FAR) - The ratio of total commercial floor area to the number of total acres in a station area.

Maximum Development Capacity - The maximum capacity of residential and non-residential development allowed under current zoning provisions. Figures for potential mixed-use sites represent total acreage multiplied by the City's recommended split between commercial and housing uses, and then multiplied by the recommended maximum capacity for the given zoning category. Note: Since this calculation does not take into account site constraints, market conditions, the availability of financing, or infrastructure capacity, it is not a prediction of development.

Total Acres of Opportunity Sites - The aggregate acreage of opportunity parcels within a station area. Note: Field observations of identified vacant and potentially redevelopable parcels resulted in refinement of the City's capacity analysis (i.e., identification of additional "opportunity sites").

Total Development Capacity on Opportunity Sites - Derived by allocating potential capacity (using the City's recommended capacity figures for each zoning category) on residential and commercial opportunity site parcels. Figures for potential mixed-use sites represent total acreage first multiplied by the City's recommended split between commercial and housing, and then multiplied by the recommended maximum capacity for the given zoning category.

MARKET CONDITIONS

Dwelling Units and Floor Area in Permit Pipeline - The number of dwelling units and floor area of commercial space currently reported in the City's permitting process for a station area.

Assessed Value of Land per Square Foot - The average assessed value of multi-family and commercial/Downtown land (as reported by the 1997 King County Assessor's database) for parcels falling within specific zoning categories, aggregated to market segments.

Growth Trend in Sales Price per Square Foot - Derived by using a "log-linear least squares regression" of the total sales price of multi-family, single-family, and commercial/Downtown land recorded by year between 1985 and 1997 for all transactions with a total sales price greater than \$1,000. Note: Sales data provided by the City of Seattle.

1996 Median Household Income - Estimates, by the PSRC, for the census tract most heavily represented in each station area.

Apartment Rents and Vacancy Rates - Estimates based on data gathered by Dupre & Scott Apartment Advisors and recorded in their Apartment Vacancy Report, Spring 1998. Note: Since the areas reported on do not correspond to market segment or station area boundaries, these figures are relevant to a discussion of market segments and station areas only in a very broad sense.

Office Rents and Vacancy Rates - Estimates based on data gathered by Grubb & Ellis in Spring 1998 for ECONorthwest. Data on office rents and vacancy rates are also published quarterly by Grubb & Ellis in "Real Estate Forecast." Information is available for four areas of the city:

- 1.) Central Business District (corresponding to Convention Place, Westlake, and University Street station in downtown areas);
- 2.) Pioneer Square;
- 3.) The Denny Regrade (corresponding to Eastlake, South Lake Union and Seattle Center station areas); and
- 4.) North Seattle (corresponding to Northgate, Roosevelt, and University District station areas).

Note: The areas reported on do not precisely correspond to market segment or station area boundaries but the information provides a general sense of office market conditions in some station areas.

Projected Daily Boardings - The daily light rail transit boardings each potential station, as forecasted by Sound Transit. Note: these preliminary forecasts are expected to be modified as Sound Transit finalizes the light alignment and station locations.

Relative Market Strength - Indicates the relative strength of market type of station area, compared to other station areas. Ranking is based on rents, employment levels, vacancy rates, land values, recent development activities, stakeholder interviews, field observations, and other information.

Station Area Forecasts - Forecasts for additional population, dwelling units, employment, and commercial floor area by the year 2020 were prepared for each station area: (1) without light rail transit, (2) with light rail but without supportive land use policies, and (3) with light rail transit and supportive land use policies. See Chapter 10 of *Background Report for Light Rail Station Area Planning in Seattle* and Summary Table C-1 on the following page.

SUMMARY TABLES

Summary Tables C-1 shows the factors used to develop station area development forecasts, and Table C-2 shows the market forecasts themselves.

Throw Page -- Summary Table C-1: Factors Used to develop Station Area Forecasts

Throw Page -- Summary Table C-2: Station Area Forecasts, Total Population and Employment by 2020