

SAMMAMISH HIGH SCHOOL AP ENVIRONMENTAL SCIENCE PROJECT

SCENARIO: HOSPITAL DISTRICT STATION AREA PLAN

PROJECT COMPONENTS & ASSIGNMENTS

PROJECT GOAL: To create a sustainable neighborhood around a light rail station.

Congratulations! You have been selected to be a member of the city's technical team charged with preparing a station area plan. The plan will encompass an area within approximately a one-half (1/2) mile radius surrounding the new light rail station being built by Sound Transit next to the city's medical district. You will be providing technical expertise for one of five project components that will ultimately comprise the station area plan:

- Land use planning
- Pedestrian/bicycle planning
- Street/transit planning
- Urban design/placemaking
- Affordable housing incentives

During the first part of the assignment, you will be conducting background research in your area of expertise. Part of that research will involve gaining a better understanding of how your component is interrelated with the other components. This understanding will help with the integration of all of the components into a single plan. The final plan will be evaluated based on how well it incorporates and integrates all of the project components to achieve the following objectives:

- Walkability: provide goods, services and opportunities in close proximity to encourage more walking, reduce vehicle trips, improve personal health, and foster community interaction;
- GHG reduction: redevelop the station area in a way that results in lower GHG emissions than today;
- Sustainability: demonstrate how the plan achieves the triple bottom line (i.e. environment, economy, equity) and minimizes the footprint of human development;
- Livability: include design features, services, amenities and the like to create places that are inviting for people of all kinds to live, work and socialize; and
- Balancing multiple interests: identify the people (i.e. the stakeholders) that will want to influence the final plan – what are their specific interests and why?

Evaluate your plan during the course of the project by regularly asking, "Is this somewhere people would want to live or work? Why or why not?"

When you have prepared your individual project component you will be working with the other members of the team that have become experts in their respective project components and the entire team will need to integrate all of their work into a single plan, balancing the different pieces and modifying your previous work to achieve the objectives listed above. Good luck, be creative and have fun!

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PROJECT COMPONENT: LAND USE

Land use is a description of the type and level of development that is desired on a site or a collection of sites that make up an area and it is the critical component of station area planning. The land use plan will have the most influence on how the other components are addressed and integrated into the final station area plan. Land use is typically categorized according to the type of use: residential, retail, office, industrial, parks and open space. There are subcategories of some of these, such as residential, that can be grouped into single family and several types of multi-family development. For purposes of this project, only multi-family development will be considered and it will be part of transit-oriented development (TOD). TOD is commonly located around light rail stations to maximize the use of the land and the light rail system. TOD is typically defined as a mixed use (i.e. containing residential and commercial uses) development or area that is walkable and designed to maximize the use of mass transit.

In order to maximize the use of the light rail station that will be located in this area, you will need to research and evaluate the following:

- Existing land uses in the plan area on a general level (i.e. residential, commercial, industrial, other)
- Identify which properties are candidates for redevelopment, including environmental features that could affect redevelop potential or would need to be mitigated
- City policies related to land use (Comprehensive Plan Land Use Element)
- Examples of good TOD projects

Using the information you evaluated above, develop a land use scenario for the entire plan area with the following information:

- Conceptual land use map showing the location of the different categories and their level of development – this will include existing land uses that are retained as well as redevelopment
- Estimated number of jobs and housing units that will be created under the scenario

Resources:

- Bellevue Comprehensive Plan, Land Use Element
http://www.bellevuewa.gov/comprehensive_plan.htm
- 130th Station Area Report
http://www.bellevuewa.gov/pdf/PCD/Bellevue_FinalReport.pdf
- Light Rail Best Practices Report
[http://www.bellevuewa.gov/pdf/PCD/062708_Final_Doc\(2\).pdf](http://www.bellevuewa.gov/pdf/PCD/062708_Final_Doc(2).pdf)
- Demographics
<http://www.psrc.org/data;>
<http://www.bellevuewa.gov/demographics.htm>
- Bel-Red Area Transformation
http://www.bellevuewa.gov/bel-red_intro.htm
- Wilburton Subarea Plan
[http://bellevuewa.gov/pdf/PCD/SP14.WilburtonNE8th_4\(1\).pdf](http://bellevuewa.gov/pdf/PCD/SP14.WilburtonNE8th_4(1).pdf)
<http://www.bellevuewa.gov/wilburton-connections.htm>
- Growing Transit Communities
<http://www.psrc.org/growth/growing-transit-communities/>
- Center for Transit Oriented Development
<http://www.cnt.org/tcd/projects/ctod/>

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PROJECT COMPONENT: PEDESTRIAN & BICYCLE ACCESS

Virtually everyone who uses a light rail station is a pedestrian for at least part of their trip; whether they are walking from their home, their place of employment, the bus stop or wherever they parked their car. In order to maximize the use of the light rail station, it is important to provide safe, convenient and appealing routes to the station for pedestrians as well as cyclists. According to national studies, the amount of time most people will take to walk to a light rail station is 10 minutes, which roughly equates to $\frac{1}{2}$ -mile. However, the walk time and experience is more important to most pedestrians than the distance. For example, someone who lives $\frac{1}{4}$ -mile from a station that has to walk along a busy street with sidewalks on a portion of the route is less likely to walk to the light rail station than someone $\frac{1}{2}$ -mile away that can walk along a wide, well-maintained sidewalk with good lighting and visibility. Similarly for bicyclists, the safer, more convenient routes, especially those with dedicated bicycle lanes, will draw transit riders from a greater distance away.

In order to maximize the use of the light rail station that will be located in this area, you will need to research and evaluate the following:

- Existing and planned sidewalks, crosswalks, trails and bike routes in the plan area
- A map of the regional trail and bicycle system to see how the area connects with other parts of the city and the region
- City policies related to pedestrians and bicyclists (Comprehensive Plan Transportation Element)

Using the information you evaluated above, develop a scenario for the entire plan area with the following information:

- Conceptual map showing the location of walk and bike routes that will provide the shortest, practical connections to the light rail station from within the area with an emphasis on the major activity areas
- Improvements to the existing pedestrian and bicycle networks that will optimize walkability within the plan area
- Conceptual map showing how bike routes and key walk routes within the plan area will connect with the regional networks

Resources (also refer to resources listed for Land Use Component):

- Bellevue Comprehensive Plan, Transportation Element
http://www.bellevuewa.gov/comprehensive_plan.htm
- Bellevue Ped/Bike Plan
<http://www.bellevuewa.gov/pedbikelanplan.htm>
- Cascade Bicycle Club – bicycle advocacy organization
<http://www.cascade.org/Home/>
- Bel-Red Area Transformation
http://www.bellevuewa.gov/bel-red_intro.htm
- Feet First – pedestrian advocacy organization
<http://www.feetfirst.org/>

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PROJECT COMPONENT: TRAFFIC & TRANSIT

Automobile traffic and congestion is a fact of life in any large metropolitan area like the Puget Sound region. Automobiles are also one of the major sources of greenhouse gases (GHG) that are affecting the global climate. Automobiles are not going away as a form of transportation, but there are ways to reduce the amount of vehicle miles traveled (VMT) through improvements to the roadway system that move traffic more efficiently and through alternative modes of travel such as walking, bicycling and using mass transit. The focus of this component is on more efficient traffic management and encouraging more use of mass transit, including light rail and bus service.

In order to create a more efficient system of streets and transit in this area, you will need to research and evaluate the following:

- Existing street system, traffic levels and planned street improvements
- Existing bus service and planned improvements (i.e. light rail)
- City policies related to traffic and transit (Comprehensive Plan Transportation Element)

Using the information you evaluated above, develop a scenario for the entire plan area with the following information:

- Conceptual street network showing changes that create more efficient flow without adversely impacting access to light rail
- An estimate of the number of jobs and housing units that will be created under each scenario

Resources (also refer to resources listed for Land Use Component):

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| <ul style="list-style-type: none">• Bellevue Comprehensive Plan, Transportation Element
http://www.bellevuewa.gov/comprehensive_plan.htm• Bellevue Transportation Facilities Plan
http://www.bellevuewa.gov/transportation-facilities-plan.htm
http://www.bellevuewa.gov/transportation_improvement_program.htm• Bellevue Transit Master Plan
http://www.bellevuewa.gov/bellevue-transit-plan.htm• Bellevue Transportation Department website
http://www.bellevuewa.gov/transportation.htm | <ul style="list-style-type: none">• Bel-Red Area Transformation
http://www.bellevuewa.gov/bel-red_intro.htm• King County Metro Transit and Sound Transit East Link
http://metro.kingcounty.gov/
http://www.soundtransit.org/Projects-and-Plans/East-Link-Extension• Bellevue Mobility and Infrastructure Initiative
http://www.bellevuewa.gov/wilburton-connections.htm• Bellevue Transportation Demand Management Program
http://www.bellevuewa.gov/transportation-management-programs.htm |
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PROJECT COMPONENT: URBAN DESIGN/PLACEMAKING

Successful TOD is much more than building a place for people to live, work and shop. It must also be a place that people want to live, work and shop. One of the ways to accomplish that is to create places for people to interact socially in safe, convenient, fun and interesting ways. Downtown Park and compass plaza in downtown Bellevue are two local examples of that. Crossroads is another local example where people of all ages, backgrounds and cultures come together and have a sense of community. Urban design is about the human environment – how it looks, feels and functions for people. Placemaking is what results from good urban design; it is a public space where people want to spend time with other people, even if they don't talk to anyone else. These can be large places like Downtown Park in Bellevue or smaller, more intimate spaces like a courtyard or plaza at a school. These spaces are important because they encourage activity and foster vitality in a community. They can be associated with a private development but still serve a larger community as long as they are publicly accessible and visible. People places can also be linked by natural features or walkways to create a network.

In order to create a neighborhood that is “livable,” you will need to research and evaluate the following:

- Existing public spaces in the plan area, including parks and open space, plazas or public spaces including what is planned around the light rail station
- City policies related to urban design (Comprehensive Plan Urban Design Element)
- Examples of good people places, especially at TOD projects

Using the information you evaluated above, develop a scenario for the entire plan area with the following information:

- Conceptual map showing the location of existing and future “people places”
- A brief description of the new spaces that are proposed in your plan, including what activities, if any, will be programmed there and the anticipated users of the space

Resources (also refer to resources listed for Land Use Component):

- Bellevue Comprehensive Plan, Urban Design Element
http://www.bellevuewa.gov/comprehensive_plan.htm
- Wright Runstad Spring District Master Planned Development
<http://www.wrightrunstad.com/properties/development-portfolio/the-spring-district.aspx>
- Light Rail Best Practices Report
[http://www.bellevuewa.gov/pdf/PCD/062708_Final_Doc\(2\).pdf](http://www.bellevuewa.gov/pdf/PCD/062708_Final_Doc(2).pdf)
- Project for Public Spaces
http://www.pps.org/reference/what_is_placemaking
- Bel-Red Area Transformation
http://www.bellevuewa.gov/bel-red_intro.htm
- Wilburton Subarea Plan
[http://bellevuewa.gov/pdf/PCD/SP14.WilburtonNE8th_4\(1\).pdf](http://bellevuewa.gov/pdf/PCD/SP14.WilburtonNE8th_4(1).pdf)
<http://www.bellevuewa.gov/wilburton-connections.htm>
- Growing Transit Communities
<http://www.psrc.org/growth/growing-transit-communities/>
- Center for Transit Oriented Development
<http://www.cnt.org/tcd/projects/ctod/>

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PROJECT COMPONENT: AFFORDABLE HOUSING

One of the challenges for our society is to provide a range of housing types that are safe, healthy and affordable to every income group, but especially the low and moderate income population. In Bellevue and most other cities in the Puget Sound region there are not enough housing units available to people that make less than 80% of the area median income (AMI). These people typically pay more than 30% of their household income for rent or mortgage. When families are paying more than 30% of their income on housing, they often do not have sufficient income for other basic necessities like food, clothing, health care, and utilities. Transportation costs (i.e. owning and operating one or more automobiles) are often the second largest expense in a family budget. In King County, XX% of households have no access to an automobile and they are dependent on transit or other modes for transportation to jobs, shopping and health care. TOD can help to address the issue by providing affordable housing options in close proximity to light rail stations. The market provides for some affordable housing around the 80% AMI level; however, there are incentives and other programs in place to encourage, and in some places require, that a portion of new housing units be established as affordable to income groups that are below 80% AMI.

In order to create a neighborhood that provides a mix of housing types that are affordable to different income levels you will need to research and evaluate the following:

- Percentage of Bellevue's population that is below 80% AMI and paying more than 30% of their household income for housing
- City policies related to affordable housing (Comprehensive Plan Housing Element)
- Existing incentives in city policies for encouraging affordable housing

Using the information you evaluated above, develop a scenario for the entire plan area with the following information:

- Conceptual map showing potential locations for affordable housing within the plan area
- A brief description of income levels that will be able to "afford" the new units and the incentives that could be used to achieve the greatest number of affordable units

Resources (also refer to resources listed for Land Use Component):

- Bellevue Comprehensive Plan, Housing Element
http://www.bellevuewa.gov/comprehensive_plan.htm
- A Regional Coalition for Housing (ARCH)
<http://www.archhousing.org/>
- U.S. Dept of Housing & Urban Development
http://portal.hud.gov/hudportal/HUD?src=/program_office/s/comm_planning/affordablehousing/
- Bel-Red Area Transformation
http://www.bellevuewa.gov/bel-red_intro.htm
- Growing Transit Communities
<http://www.psrc.org/growth/growing-transit-communities/>
- Center for Transit Oriented Development
<http://www.cnt.org/tcd/projects/ctod/>