Design Los Angeles Monorail System Routes

Introduction

The Los Angeles Regional Transit Board has hired your company to research and recommend potential routes for a new monorail system in Los Angeles, California with the goal of enhancing local and regional connectivity to meet transit demand based on projected population growth. You have been chosen as a consultant because of your knowledge of transportation systems and experience with the design of the monorail systems.

Your company will present the transit route options you recommend to the Los Angeles Regional Transit Board (the class). The presentation will include charts to display data gathered and maps that show the preferred/recommended routes as well as other materials/items you choose to use.

Instructions

It is recommended you complete the **Transportation Exploration Activity** before conducting this activity.

1. Go to the **Transportation Youth Academy** website. Click on the **Design Los Angeles Monorail Transit Routes link**.
2. Familiarize yourself with how a monorial system operates by watching the **SMT Rail Greenest Smart Mass Transit on the planet** video on the Transportation Youth Academy website website. Be sure to take notes on how many people/goods the system can transport.

- Next you will be designing routes for the new monorail system in the city and county of Los Angeles, California. Begin by conducting research. Use the list of websites below, as well as your own research, to investigate population statistics and data on trends in transportation in Los Angeles. Begin with the **Southern California Transportation Outlook 2040** PowerPoint/document on the Transportation Youth Academy website. This report contains current and estimated population and transportation demand information to the year 2040 in Los Angeles county and the surrounding counties in Southern California; including route maps.

3. Predict the population of the city and county of Los Angeles 25 years in the future. Explore alternatives to current transportation routes that may accommodate this increased population.

4. Design a route plan for the new monorail system that will accommodate the projected growth while helping to improve current transportation congestion problems and to achieve a more efficient transportation system. Here are key questions to consider in your design.

    a. Where are the existing transportation bottlenecks in the Los Angeles area?

    b. How many people will need to use the monorail system each day 25 years from now?

    c. Where will people live and work in 25 years? What do the routes look like that people will take from where they live to where they will be working? What are other routes people might take for activities such as shopping, travel, and entertainment?

    d. Are there any geographic limitations to where the monorail system can operate?

    e. Consider what additional communities and counties, beyond the city and county of Los Angeles, the monorail should extend to. Think about how people who live in other areas might travel to Los Angeles to work or for activities in entertainment. Also consider how people who live in Los Angeles might travel to surrounding areas for work and other activities.

    f. Will the monorail system be used to move/transport goods? Look at data on goods movement in the area.

    g. Is it feasible to install the monorail system using existing highways in the Los Angeles

area or will new routes need to be built? Even if it is feasible to install the system on existing highways, will this be sufficient to meet the future demand for the monorail system?

h. What other transportation projects are currently planned? How many people are they projected to transport and where will they be located?

i. Are there other factors that need to be considered such as environmental impact; preservation of local history, culture, and/or customs; aesthetics; what communities will want from the transit system 25 years from now; or other factors?

j. Are there other questions you think are important to consider in your route design?

5. Develop maps showing the recommended routes based on your research.

6. In addition to the maps, develop other visual aids to use as you present your proposed route design. You will want to include information on the research materials you used to support your recommended routes; the goals, values, and interests that were considered when designing the routes; etc. Think about which kinds of information would be most helpful to support your recommendations and include that information.

Online Planning and Mapping Resources for This Activity:

- Los Angeles Almanac: http://www.laalmanac.com/LA/la00a.htm. This site contains a wealth of information and data on Los Angeles. On the site a link is provided for data on individual communities within the City of Los Angeles. The site also has a link to Los Angeles transportation and traffic data. And the site contains community, city, and county maps. Here is a link to the City of Los Angeles map: http://www.laalmanac.com/LA/lamap2.htm.
- LA Metro Transportation Statistics: https://www.metro.net/about/library/library-research/research-tools/transportation-statistics/
  - LA Metro Facts at a Glance: https://www.metro.net/news/facts-glance/#. Bus and rail, cars and bikes, agency information (occupations, budget, etc.), and project tracker
  - LA Metro Projects: https://www.metro.net/projects/. Includes an interactive timeline of past, present, and future LA metro development projects.
  - LA Metro Ridership Statistics: https://www.metro.net/news/ridership-statistics/ This site has ridership statistics for the most recent months (compared to the same month in the previous two years) for bus and rail as well as a link to a searchable site (http://isotp.metro.net/MetroRidership/Index.aspx) where you can select ridership statistics by year, period (annual, quarterly, monthly, etc.) and by mode of transportation (all, bus, rail). A tab for a page with ridership statistics for cars and bikes is also available on the site.
- Los Angeles Department of Transportation Current Count Data site: http://ladot.lacity.org/what-we-do/traffic-volume-counts/current-count-data.
- Detailed traffic count data can be found on NavigateLA http://navigatela.lacity.org/ (Internet Explorer Only), and a tutorial for how to use the site is available at: http://ladot.lacity.org/sites/g/files/wph266/f/lacityp_027156.pdf.
- An extensive gallery of maps for Los Angeles is available on the NavigateLA site at http://navigatela.lacity.org/navigatela/common/mapgallery/index.cfm.
- The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization (MPO) for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. SCAG is mandated by the federal government to develop a multimodal long-range transportation plan that provides a 20-year vision for investing in our transportation system, and update it at least once every four years. The most recent update is for 2016. At the heart of the 2016 RTP/SCS are over 4,000 transportation projects—ranging from highway improvements, railroad grade separations, bicycle lanes, new transit hubs and replacement bridges. These projects seek to reduce traffic bottlenecks, improve the efficiency of the region's

network, and expand mobility choices for everyone. Watch the 2016 RTP/SCS video to find out more about the plan at: http://scagrtpscs.net/Pages/2016RTPSCS.aspx#2016-RTPSCSvideo. And an interactive executive summary of the plan is available at: http://scagrtpscs.net/SiteAssets/ExecutiveSummary/index.html.

- Urban Transport Fact Book: Los Angeles Index: www.publicpurpose.com/utx-la.htm. This site contains commuting data for Los Angeles Metropolitan Area Los Angeles-Orange-Riverside-San Bernardino & Ventura Counties.