Station Spacing Criteria
Rail Volution
2007

Presented by
Don Smith, Senior Planner
Sacramento Regional Transit
The City of Sacramento and the Sacramento Housing and Redevelopment Agency requested Regional Transit to consider building a new light rail station in the Dos Rios neighborhood.
Industrial in character -
- Blue Diamond Almond Growers
- Agricultural Processing
- Warehouses
- Shops
- Storage Facilities
Warehouses
Warehouses
Shops/Manufacturing
Social Service Organizations -
- Including food and shelter programs
- Free school for homeless children
- Rehabilitation programs

Public Housing: Dos Rios Housing Complex

Single Family Residential:
- several small residential neighborhoods

American River Parkway:
- regional recreational area

Near the **Central Business District** and **Railyards** project
Additional Considerations -

- California Indian Heritage Center
  Projected 600,000 annual visitors

- American River Parkway
  - Proposed regional park and zoo
  - Expansion of the bicycle trail system
Existing Light Rail

- Alkali Flat Station – $\frac{3}{4}$ mile south
- Globe Station – 1 mile north

- Several other stations have been proposed in other areas of the system.
Past practice
- Planning and Engineering would conduct a study using “random” criteria that was thought best at the time.

- Since the criteria was not uniform, each evaluation could not be used for comparative purposes.
A standardized procedure offers:

- an agreed upon set of criteria by which to measure proposed stations

- more detailed information

- ensures that information is not missed or neglected.
Station Spacing Criteria
A Two Tier approach -

Tier 1 Fatal Flaw Criteria

Tier 2 Critical Information
Intended to be fatal flaw criteria.

If it does not pass this “test” the station would not be considered feasible.

- Constructability
- Ridership/Density
- Environmental Justice
- Public Input
Constructability

Can it be located/constructed in a way that does not adversely affect the safety of the system or the user?
Turnout/Special Track Work
What is the estimated ridership and area density?
Application and Ridership Forecasts

Based on the methodology discussed herein and the assumptions noted previously, a ridership forecast for a “generic-location” Dos Rios LRT station was prepared. Appendix A presents the calculations sheets for the forecasted ridership. The results are presented in the following table.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Non-Social Service Riders</td>
<td>10</td>
<td>175</td>
<td>350</td>
</tr>
<tr>
<td>Existing Social Service Riders</td>
<td>150</td>
<td>475</td>
<td>800</td>
</tr>
<tr>
<td>Existing Total Riders</td>
<td>150</td>
<td>Say 650</td>
<td>1,150</td>
</tr>
<tr>
<td>2025 Non Social-Service Riders</td>
<td>500</td>
<td>625</td>
<td>800</td>
</tr>
<tr>
<td>2025 Social Service Riders</td>
<td>100</td>
<td>850</td>
<td>1,650</td>
</tr>
<tr>
<td>2025 Total Riders</td>
<td>600</td>
<td>Say 1,500</td>
<td>2,450</td>
</tr>
</tbody>
</table>

Source: Parsons Brinckerhoff, March 2005
Comparison of Actual and Forecasted Ridership

Dos Rios Station

LIGHT RAIL STATIONS
Environmental Justice

What is the nature of the community proposed to be served?
The Dos Rios Neighborhood

- Low Income
- High Number of Elderly
- High Number of Families with no car ownership
Public Input
Tier 1 Criteria

Public Meetings found:

- that a majority supported the station.
- that residents looked forward to using transit to get to retail services.
- the community saw a need with the proposed California Indian Heritage Center and City regional park visitors.
- that a few people did not support it due to perceived safety issues.
Through the analysis, we found the proposed station:

- to be constructable.
- would generate adequate ridership.
- in a very transit dependent neighborhood.
- to have the support of the residents in the neighborhood.
- Travel Time/Station Spacing
- TOD potential
- Local Bus Network/Cost Benefit Analysis
- Operational Analysis/Cost
Travel Time/Station Spacing Criteria

- Added time to system
- Spacing:
  - Urban Core: 4 Blocks
  - Mid-Town: 1/2 Mile
  - Suburban: 1 Mile
  - Ex-Urban: 2 Miles
The proposed station would be \( \frac{3}{4} \) mile north of the Alkali Flat/La Valentina Station, and 1 mile south of the Globe Station. This would be consistent with the Spacing Criteria.
Tier 2 Criteria

TOD Potential
Tier 2 Criteria

1/4 mile radius

Loaves and Fishes Complex
North B St.

Signalized & "Controlled" X-Walk
Ahern St.

Demolished Buildings
Sproule Ave.

Richards Blvd.

California Indian Heritage Center
N. 16th St.

Extension of Richards Blvd. and Traffic Signals
N. 12th St.
Tier 2 Criteria

Local Bus Network/Cost Benefit Analysis
Tier 2 Criteria

Dos Rios Neighborhood
Routes 15, 29 and 33
Operation Analysis/Cost

What is the effect on overall operations?

What are the incremental costs associated with operating/constructing this station?
This RAILSIM clip shows a simulation of the PATH rail network between New York and New Jersey.
Operational Conclusions

For example:

- Time delay caused by the station is acceptable.

- Train meets are acceptable.
- Travel Time and Spacing met the criteria.
- TOD Potential was identified.
  - Vacant property adjacent to the site
  - Properties in transition
  - Redevelopment Area
- Local bus service would feed the station.
- Operational issues were minimum.
- Helps standardize the evaluation process.
- Becomes more measurable.
- Assists decision-making.
- May be used when locating Bus Rapid Transit stations and transit centers.