Regional Transit

Station Spacing Criteria
Rail Volution
2007

Presented by
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Sacramento Regional Transit

California
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San Francisco
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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.

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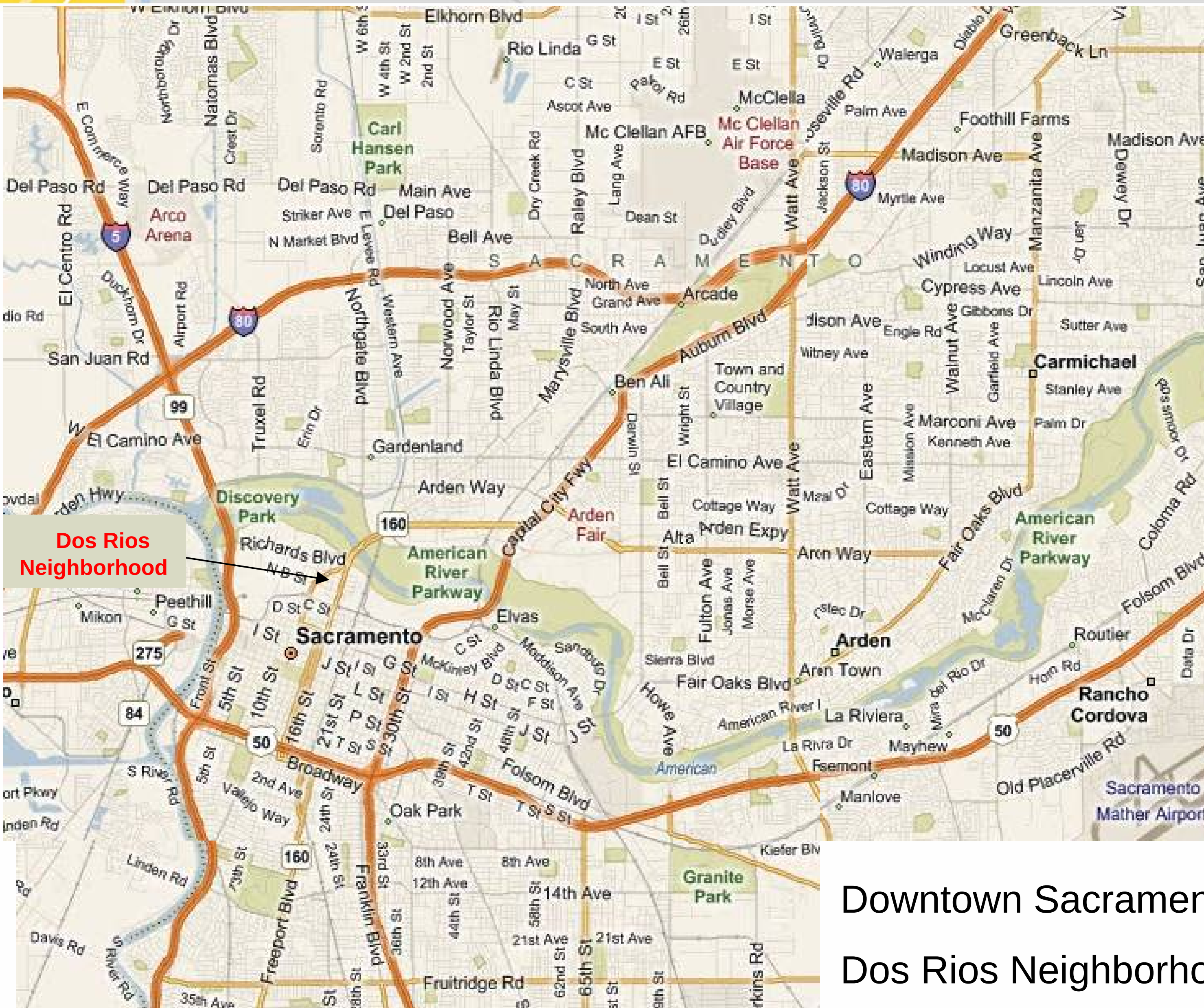
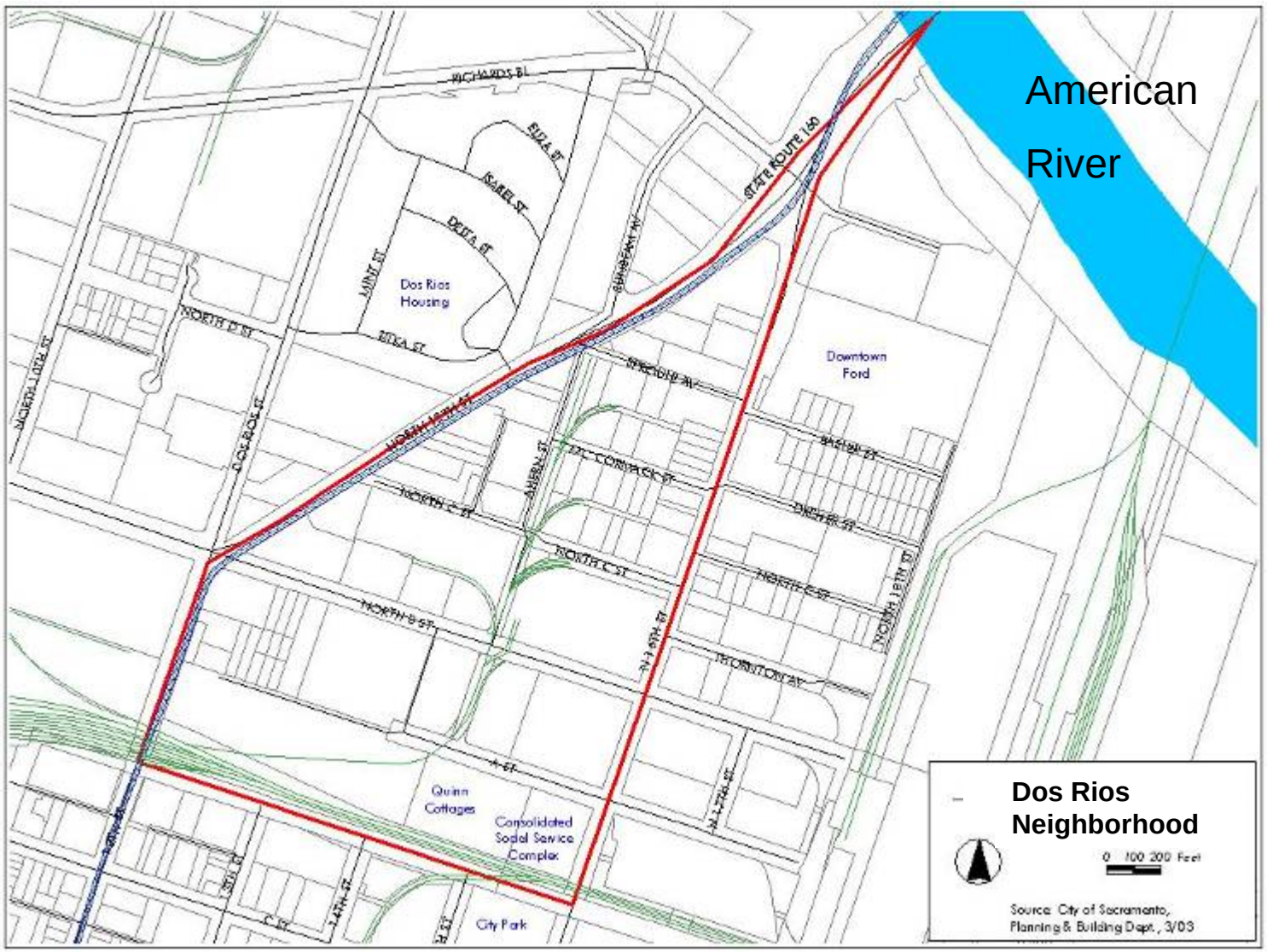


N

Downtown Sacramento

Dos Rios Neighborhood


American
River
Dos Rios
Housing
Downtown
Ford
Quinn
Cottages
Consolidated
Social Service
Complex
City Park
Dos Rios
Neighborhood
0 100 200 Feet
Source: City of Sacramento,
Planning & Building Dept., 3/03

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Light Rail Blue Line

The Dos Rios Neighborhood - Past

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Industrial in character -

- Blue Diamond Almond Growers
- Agricultural Processing
- Warehouses
- Shops
- Storage Facilities

Warehouses

Shops

Warehouses

Shops/Manufacturing

Auto Sales

Mini-Storage

Dos Rios Neighborhood - Today

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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

Dos Rios Public Housing

Quinn Cottages/County – Transitional Housing

American River
Loaves and Fishes Complex
Signalized & "Controlled" X-Walk
Demolished Buildings
California Indian Heritage Center
Dos Rios Complex
Richards Blvd.
N. 16th St.
N. 12th St.
North B St.
Ahern St.
Sproule Ave.
Extension of Richards Blvd. and Traffic Signals

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 – ¾ 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

Tier 1 Criteria

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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?

Curve and Hill

Curve

Turnout/Special Track Work

Tier 1 Criteria

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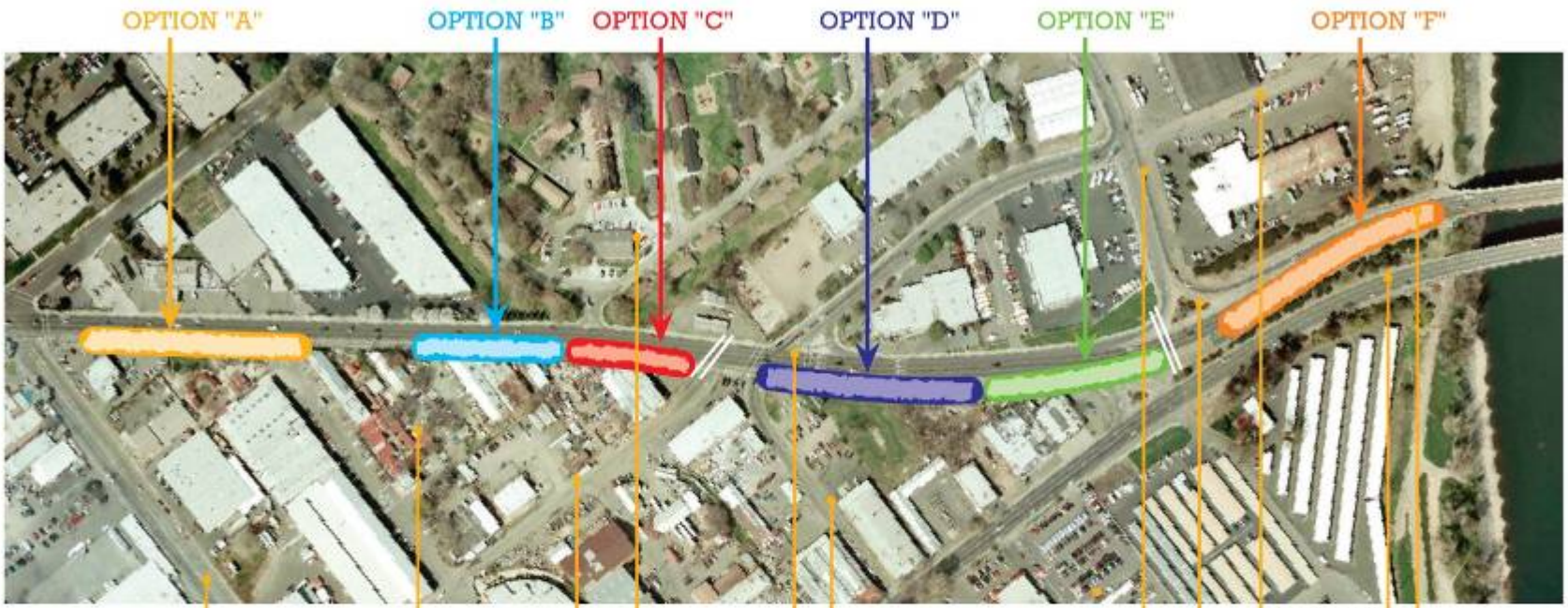

Tier 1 Criteria

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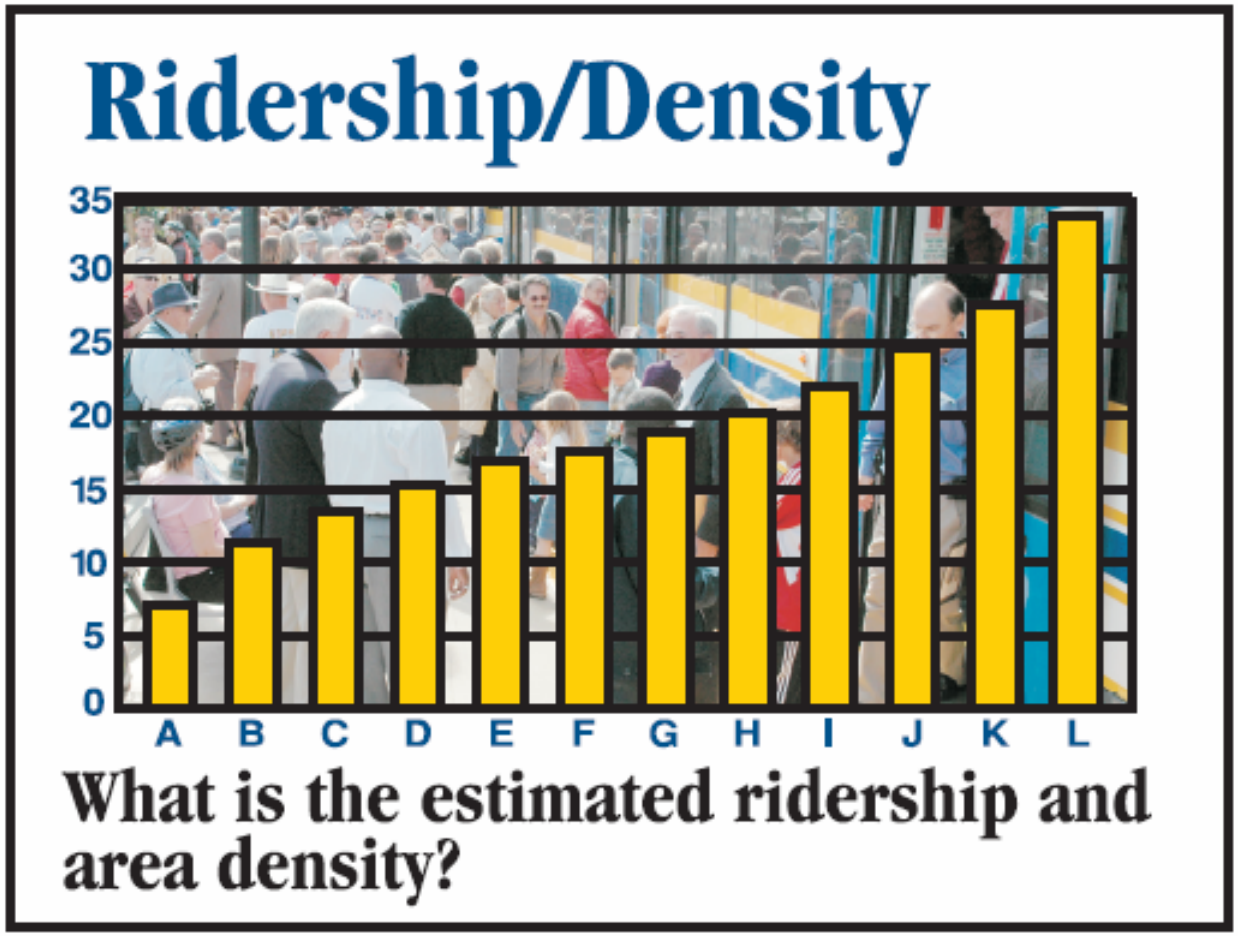

Tier 1 Criteria

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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 1
Estimation of *Potential* Dos Rios LRT Station Ridership

Scenario	Low	Medium	High
Existing Non-Social Service Riders	10	175	350
Existing Social Service Riders	150	475	800
Existing Total Riders	**150**	**Say 650**	**1,150**
2025 Non Social-Service Riders	500	625	800
2025 Social Service Riders	100	850	1,650
2025 Total Riders	**600**	**Say 1,500**	**2,450**

Source: Parsons Brinckerhoff, March 2005

Tier 1 Criteria

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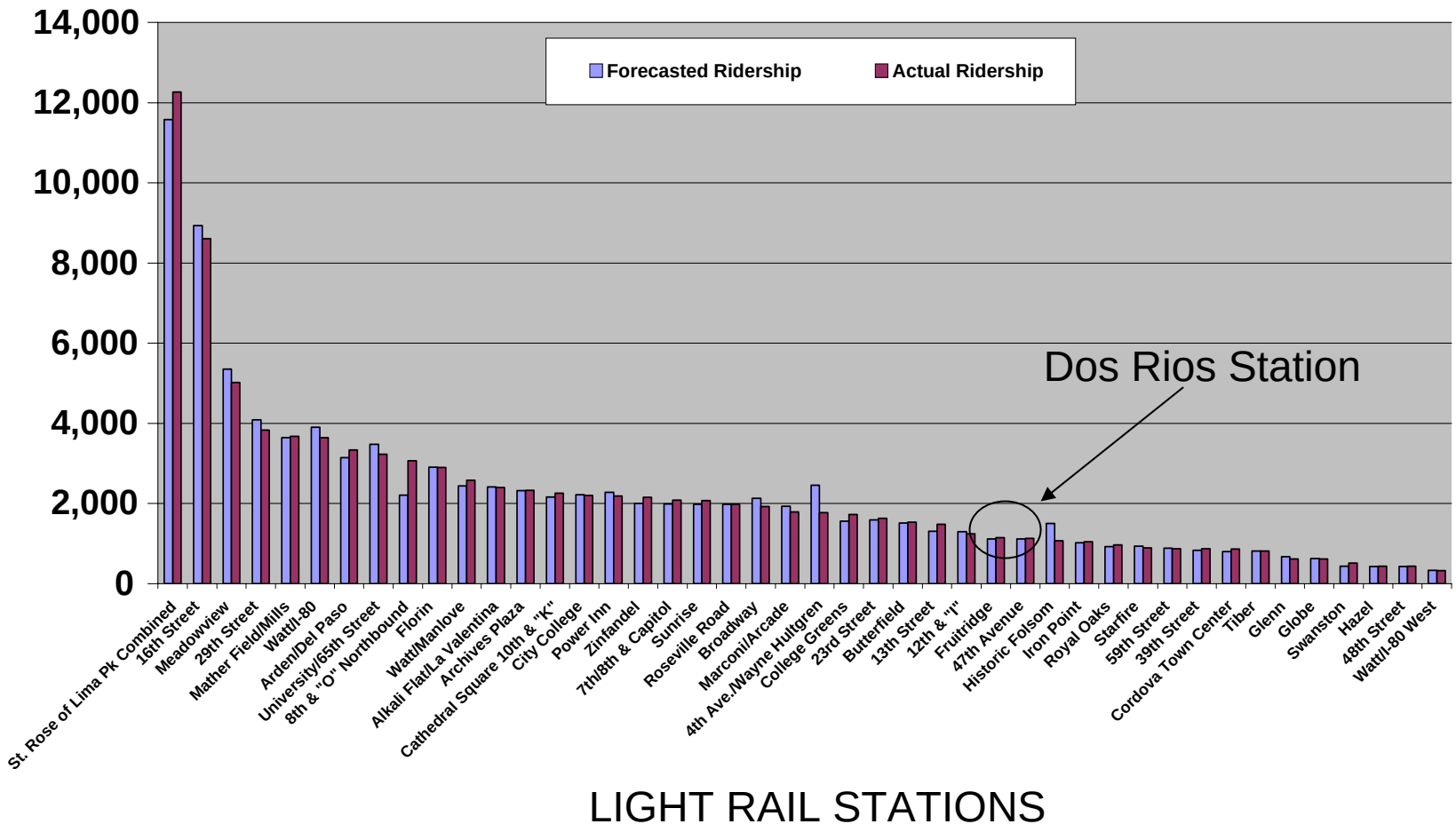
Comparison of Actual and Forecasted Ridership



LIGHT RAIL STATIONS

Tier 1 Criteria

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Environmental Justice

What is the nature of the community proposed to be served?

Tier 1 Criteria

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The Dos Rios Neighborhood

- Low Income
- High Number of Elderly
- High Number of Families with no car ownership

Tier 1 Criteria

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Tier 1 Criteria

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Public Meetings found:

- that a majority supported the station.
- that residents looked forward to using transit to get 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.

Tier 1 Conclusions

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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.

Tier 2 Criteria

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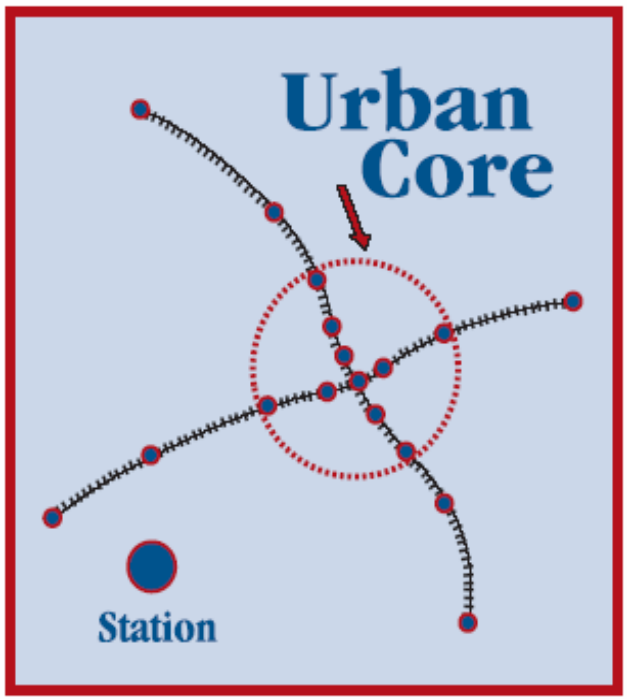
- **Travel Time/Station Spacing**
- **TOD potential**
- **Local Bus Network/Cost Benefit Analysis**
- **Operational Analysis/Cost**

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

Tier 2 Criteria

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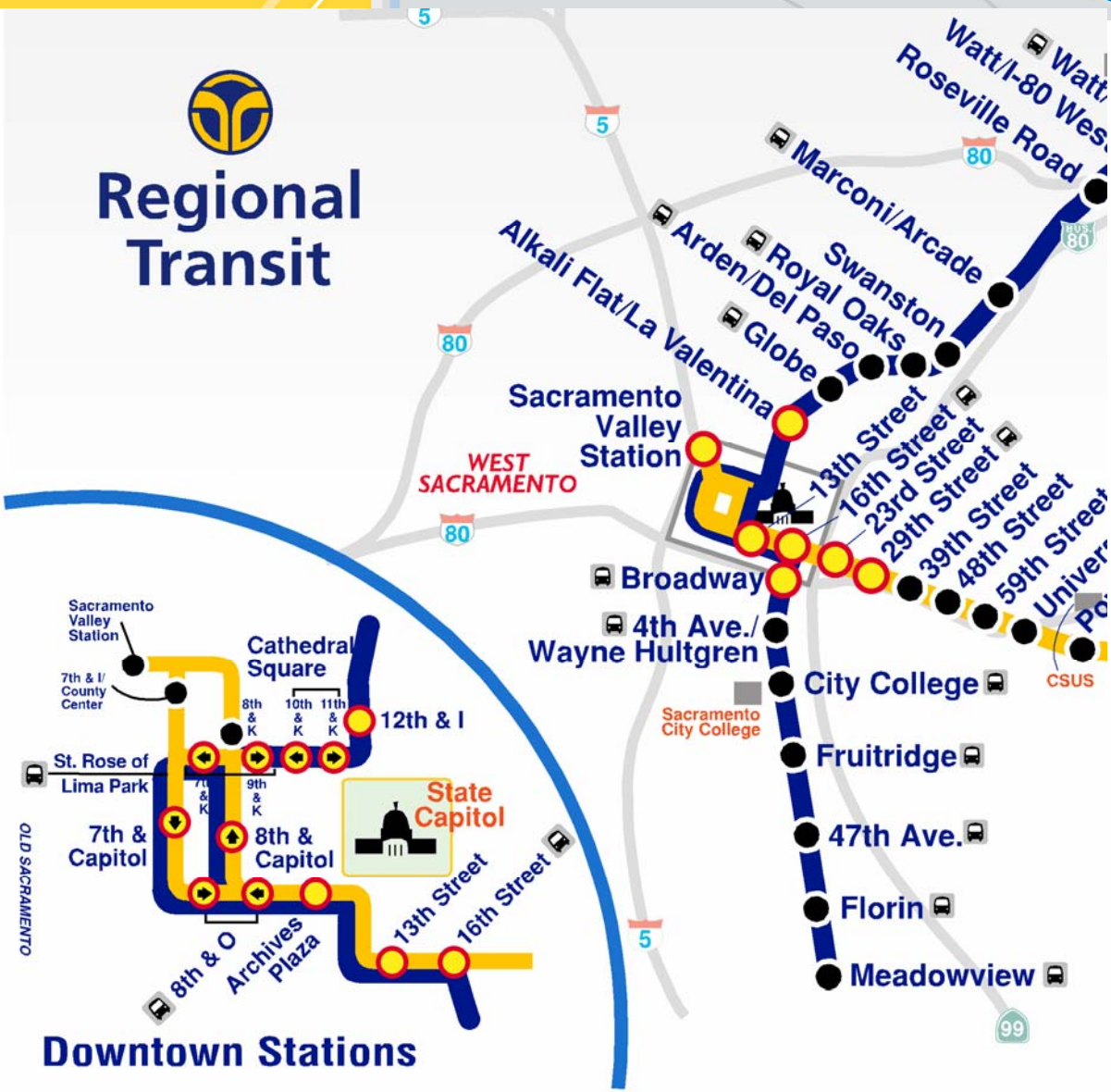
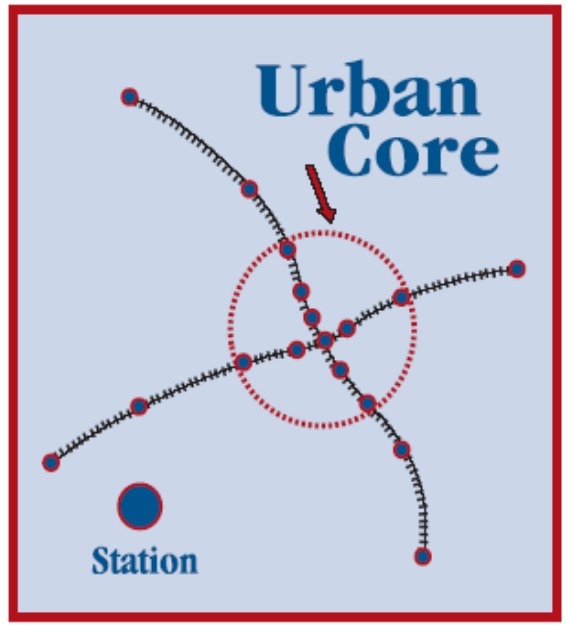
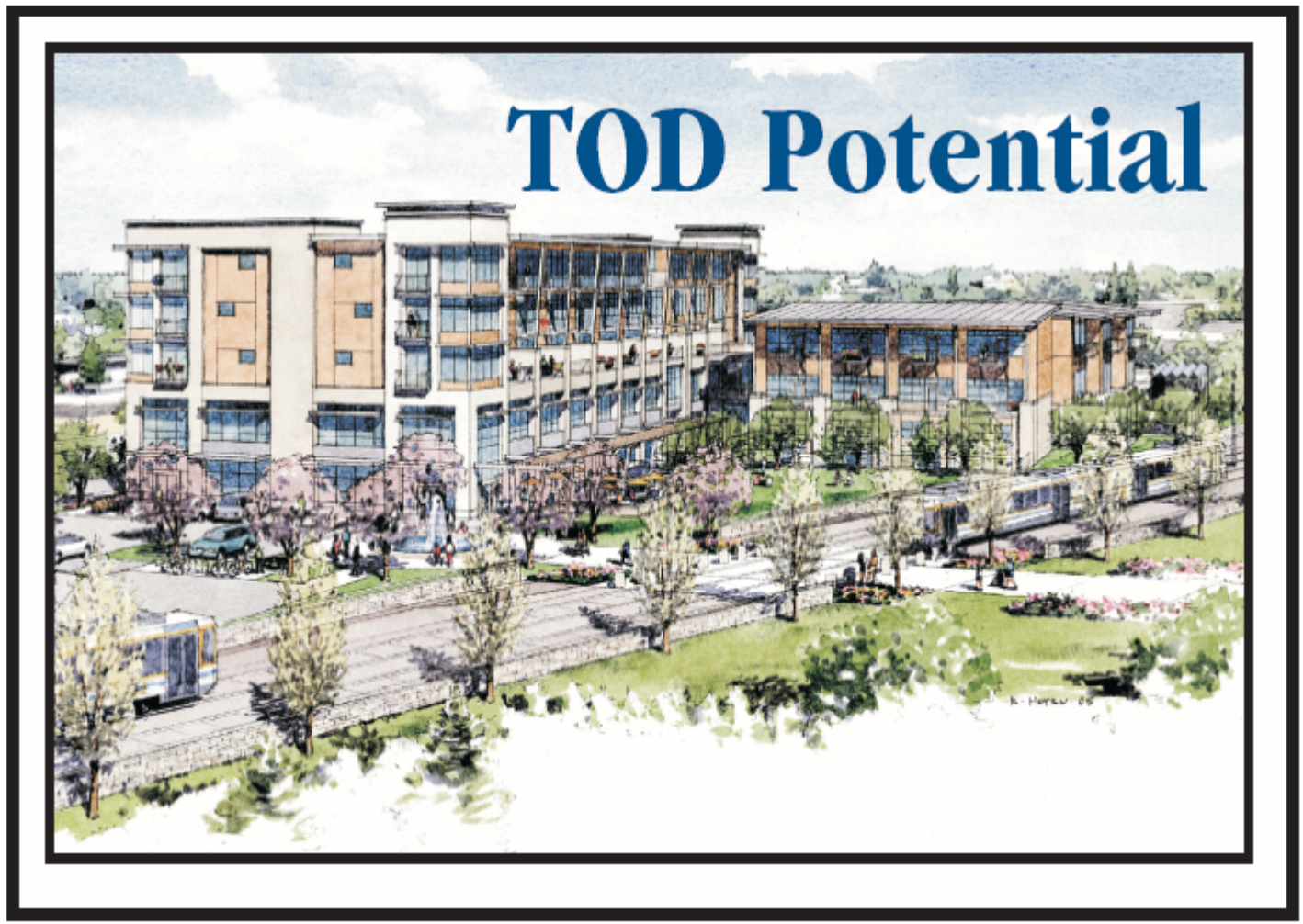




The proposed station would be ¾ mile north of the Alkali Flat/La Valentina Station, and 1 mile south of the Globe Station. This would be consistent with the Spacing Criteria.

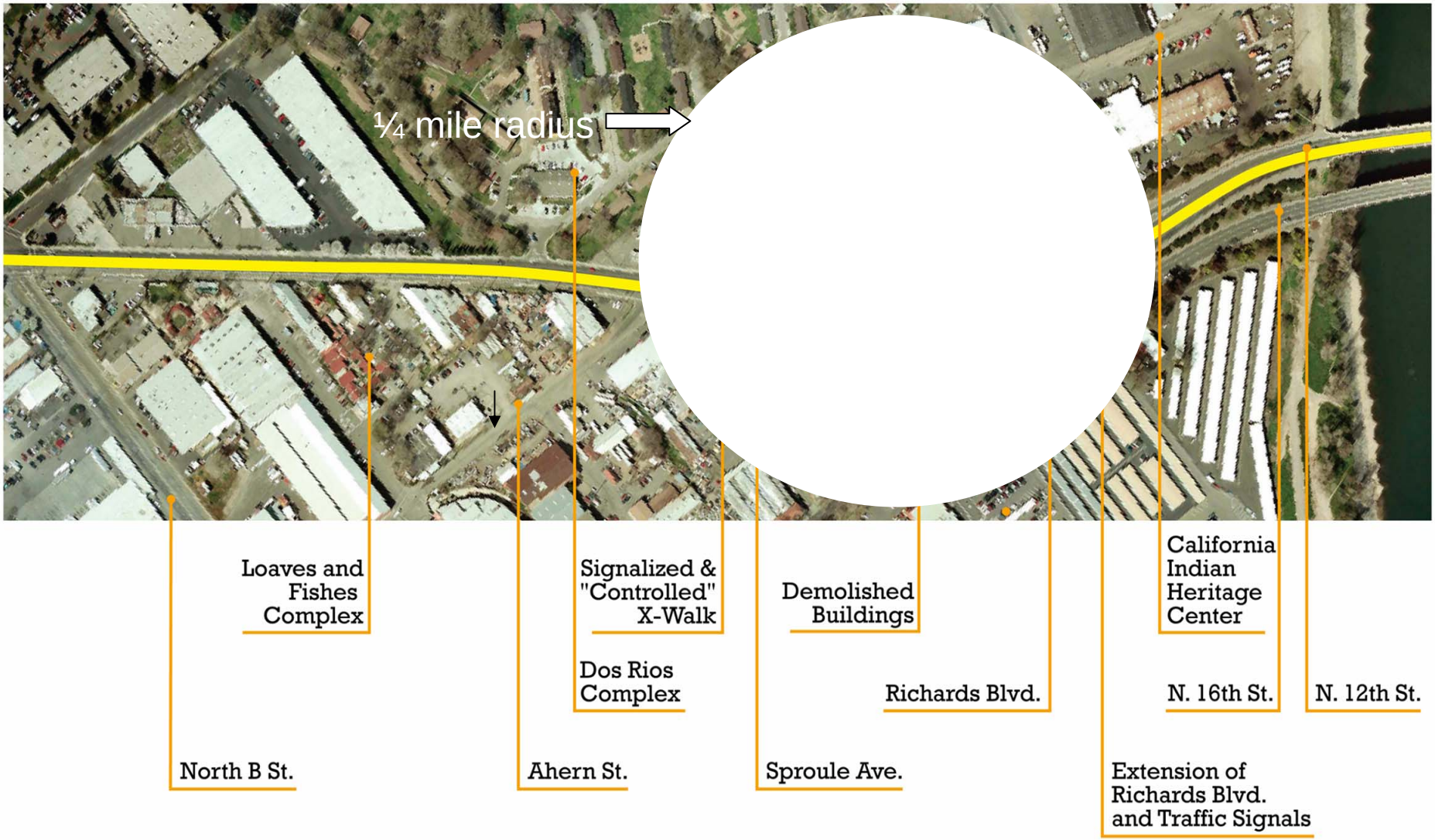
Tier 2 Criteria

Regional Transit



Tier 2 Criteria

Regional Transit



Tier 2 Criteria

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Local Bus Network/ Cost Benefit Analysis

Tier 2 Criteria

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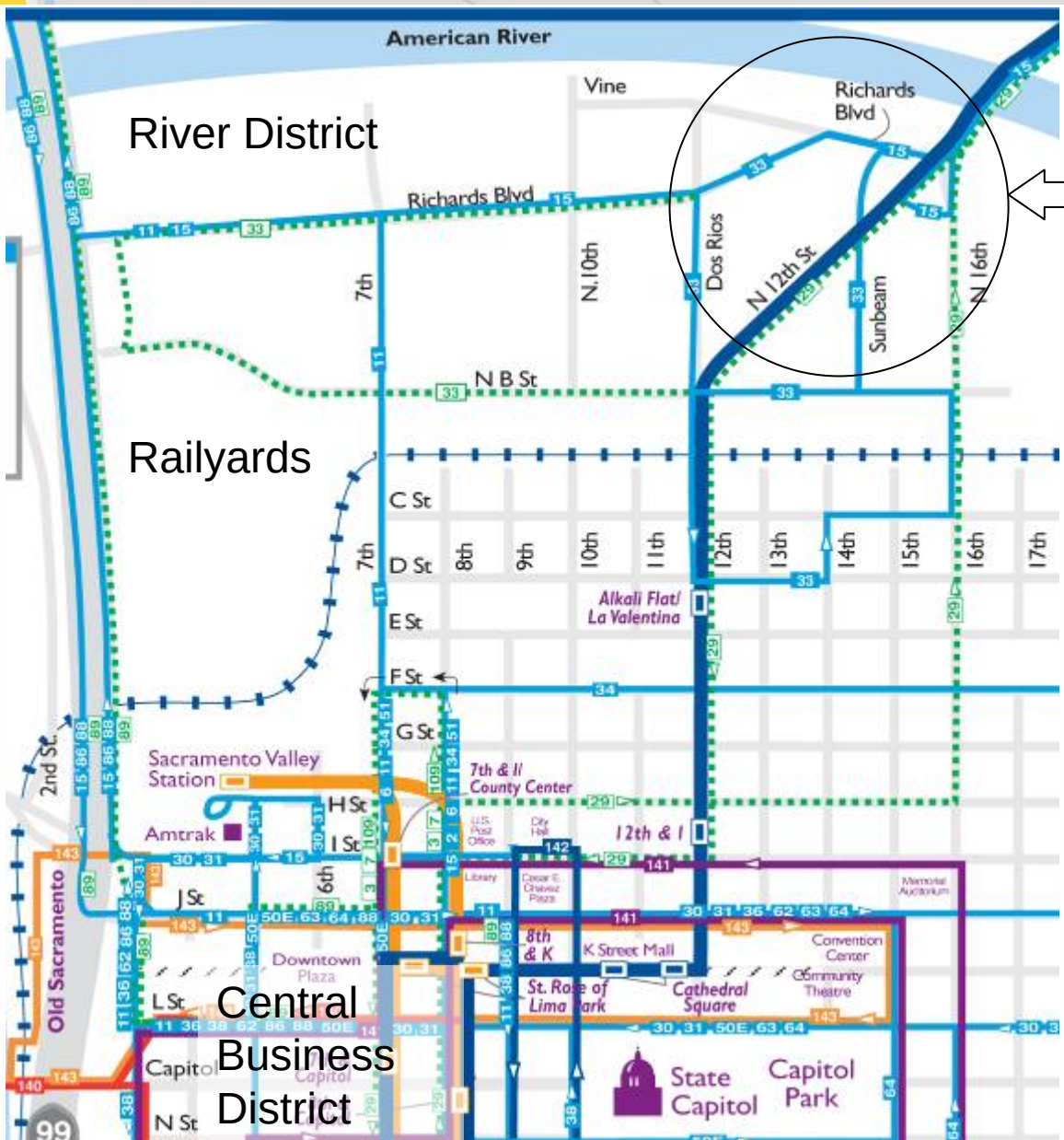

Dos Rios Neighborhood

Routes 15, 29 and 33

Tier 2 Criteria

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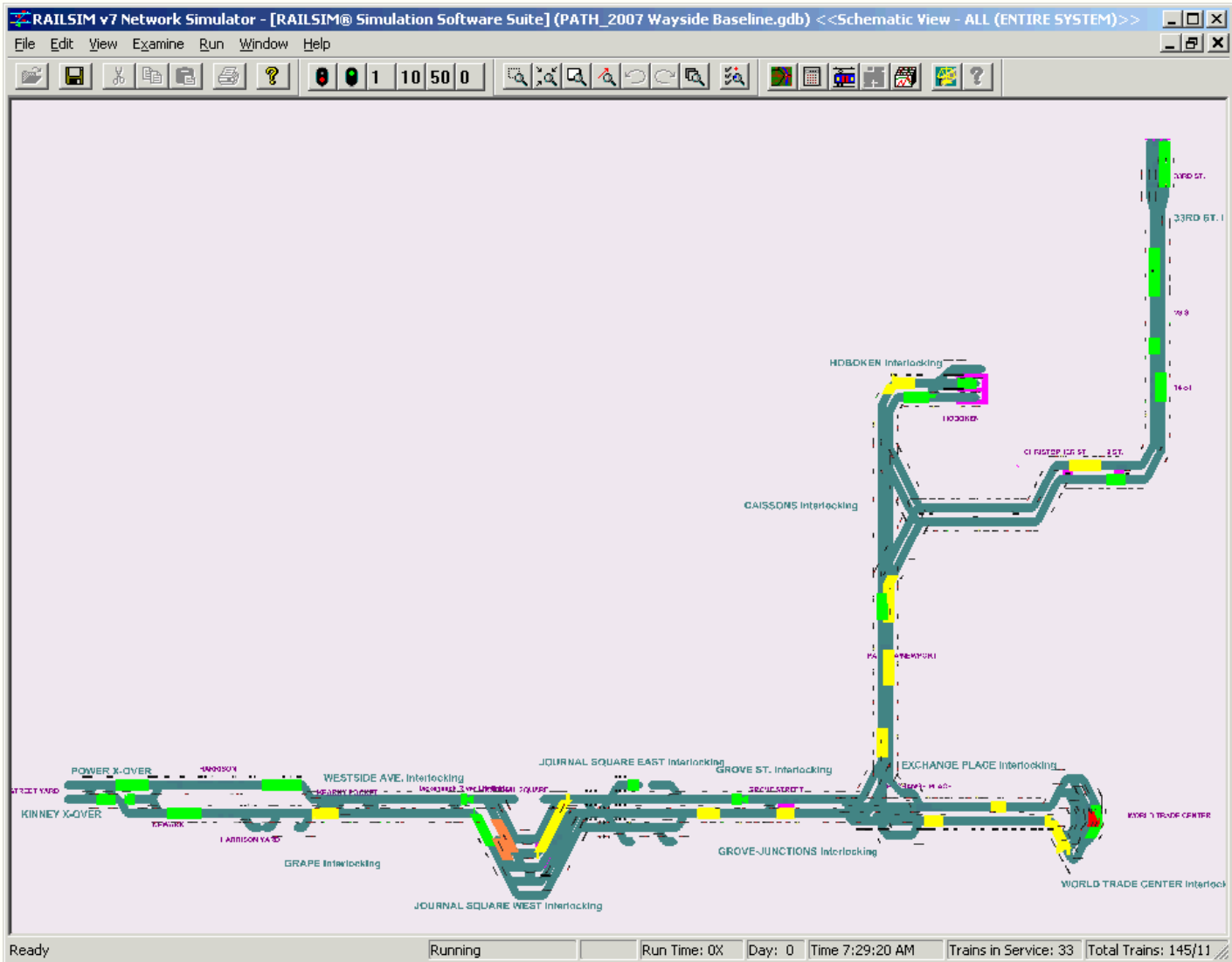
What is the effect on overall operations?

What are the incremental costs associated with operating/ constructing this station?

RAILSIM® Network Simulator

This RAILSIM clip shows a simulation of the PATH rail network between New York and New Jersey.



www.RAILSIM.com

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Tier 2 Criteria

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Operational Conclusions

For example:

- **Time delay caused by the station is acceptable.**
- **Train meets are acceptable.**

Tier 2 Conclusions

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- 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.

Station Spacing Criteria

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- Helps standardize the evaluation process.

- Becomes more measurable.

- Assists decision-making.

- May be used when locating Bus Rapid Transit stations and transit centers.