

Riverside streetcars, clockwise from top left: Chinatown; Market Street; Magnolia Ave; Fox Theatre

COMMUNITY WORKSHOP

7/31/14



Riverside
RECONNECTS
STREETCAR STUDY

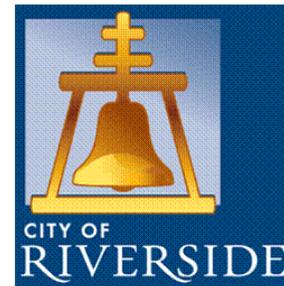
BAE URBAN ECONOMICS
PLACEWORKS | IBI GROUP

INTRODUCTION

Staff

- Jay Eastman, Principal Planner, Community Development
- David Murray, Senior Planner, Community Development
- Steve Fox, Senior Regional Planner, Southern California Association of Governments (SCAG)

This study is funded by a grant to the City of Riverside awarded by SCAG, with funding from Caltrans.



INTRODUCTION

Consultant Team

- **BAE Urban Economics**

- Ron Golem, Principal
- Sherry Rudnak, Vice President

- **PlaceWorks**

- Karen Gulley, Principal
- Suzanne Schwab, Project Planner

- **IBI Group**

- Bill Delo, Associate
- Max Backlund, Transportation Planner

bae urban economics



PLACEWORKS

creating great places



STREETCAR FEASIBILITY STUDY

Analysis of the full range of issues related to a streetcar system in Riverside, for community and City Council review:

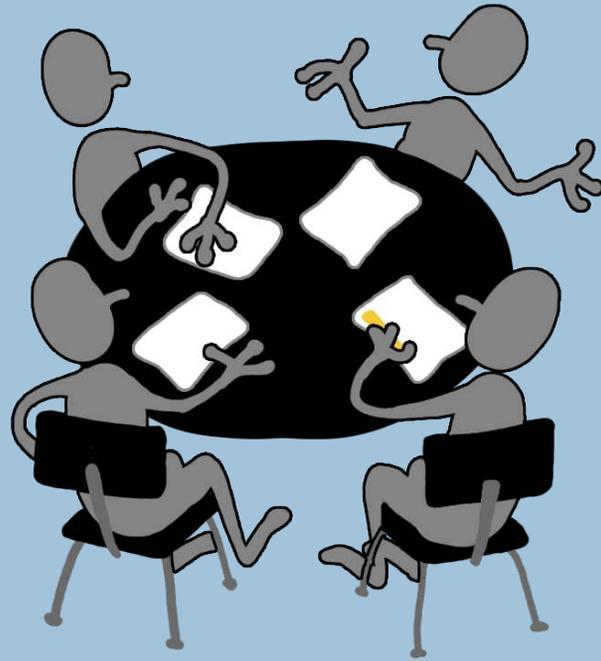
- Routes and ridership
- Relationship to economic development
- Cost, funding to build and operate
- Benefits and costs, compared to alternatives
 - Bus Rapid Transit (BRT)
 - Modern Electric Trolley bus
 - “No build” - existing and future RTA bus



STUDY PROCESS: SUMMER 2014 – FALL 2015

- Tonight: Start of community engagement
- Steering Committee: representatives of transportation agencies, the community, business, and universities
 - 1st meeting next month, meetings through Summer 2015
- Ongoing community engagement
- Evaluation of key items:
 - Existing conditions, costs & benefits: **November 2014**
 - Alignment alternatives, preferred alignment: **January 2015**
 - Development analysis and funding alternatives: **May 2015**
 - Implementation plan and draft report: **August 2015**
 - Present final report to Council: **Fall 2015**





TONIGHT'S WORKSHOP

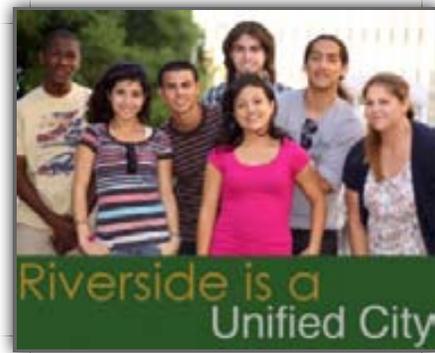
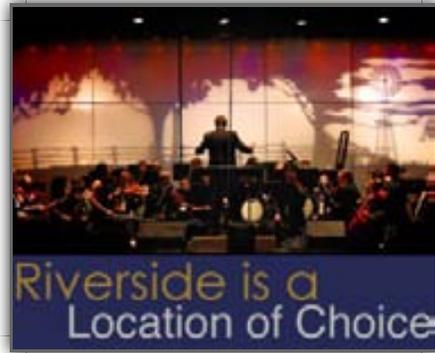
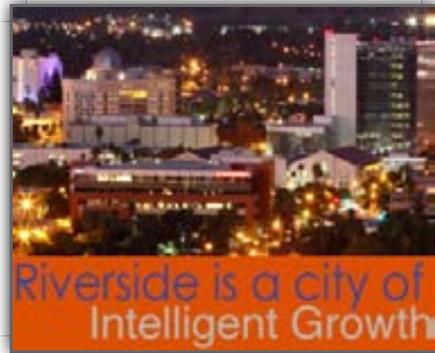


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WORKSHOP ORGANIZATION

Tonight:

- Riverside's Future and the Setting for A Streetcar
- Basics of Streetcar Systems and Alternatives
- Key Considerations for a Streetcar in Riverside
- Questions & Answers
- Group Exercise: Potential Routes
- Next Steps



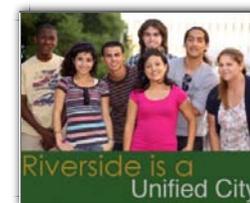
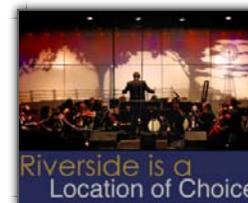
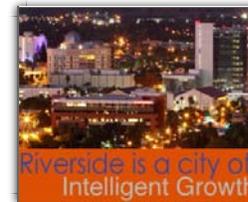
RIVERSIDE'S FUTURE & THE SETTING FOR A STREETCAR



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STREETCAR STUDY

WHY CONSIDER A STREETCAR?

- Expands transit choices and local mobility
- Focuses growth and reduces its impacts
- Attracts development and transit riders
- Enhances competitiveness, economic development
- Value of its benefits can exceed the cost of investment, operation



CURRENT CONDITIONS

Current road usage & congestion

- University Avenue is Level of Service D – nearing capacity, still meets City standards
- Magnolia Avenue is Level of Service A – good, some congestion at peak periods

Trolley routes: Jury Trolley; Crest Cruiser



CURRENT CONDITIONS

RTA bus service in the Study Area:

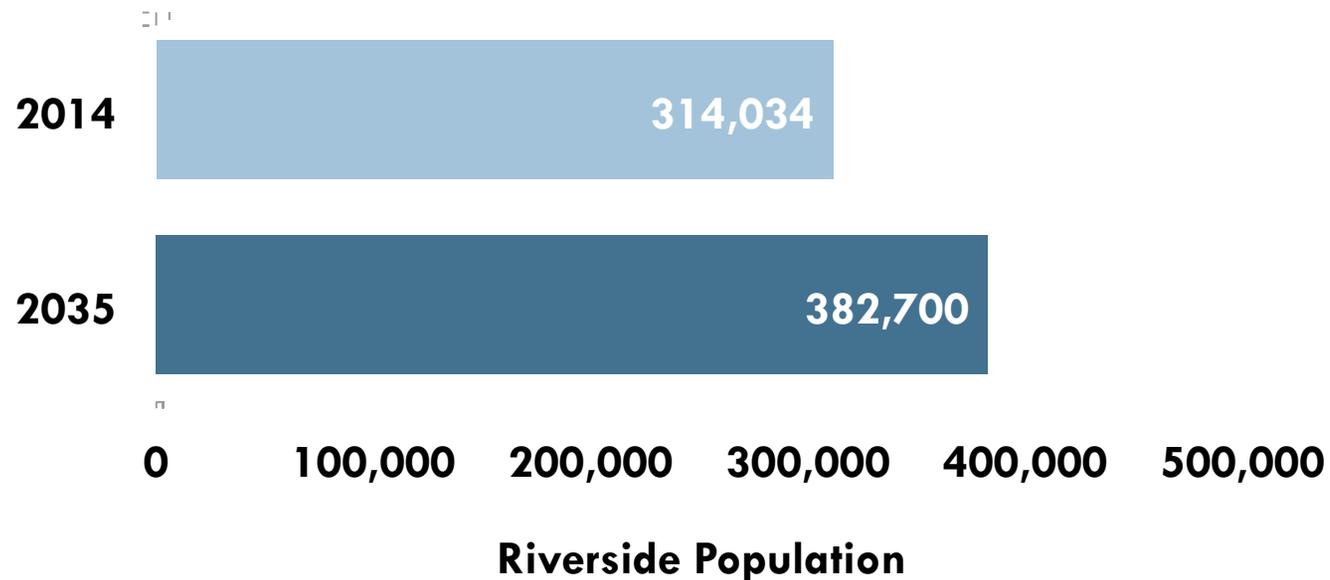
- Route 1, UCR to Market-Magnolia-Corona is RTA's busiest line; weekdays 7,600 riders, peak headway is 20 minutes
 - Enhanced service with 10 minute headways starts May 2016
- Route 16 along University is 2nd busiest; weekdays 2,400 riders, peak headway is 25 minutes
- Four other RTA lines in study area, peak headways 45 – 74 minutes



FUTURE POPULATION GROWTH

Based on SCAG projections, Riverside will grow

- Up to 69,000 new residents by 2035 (over 20% growth)

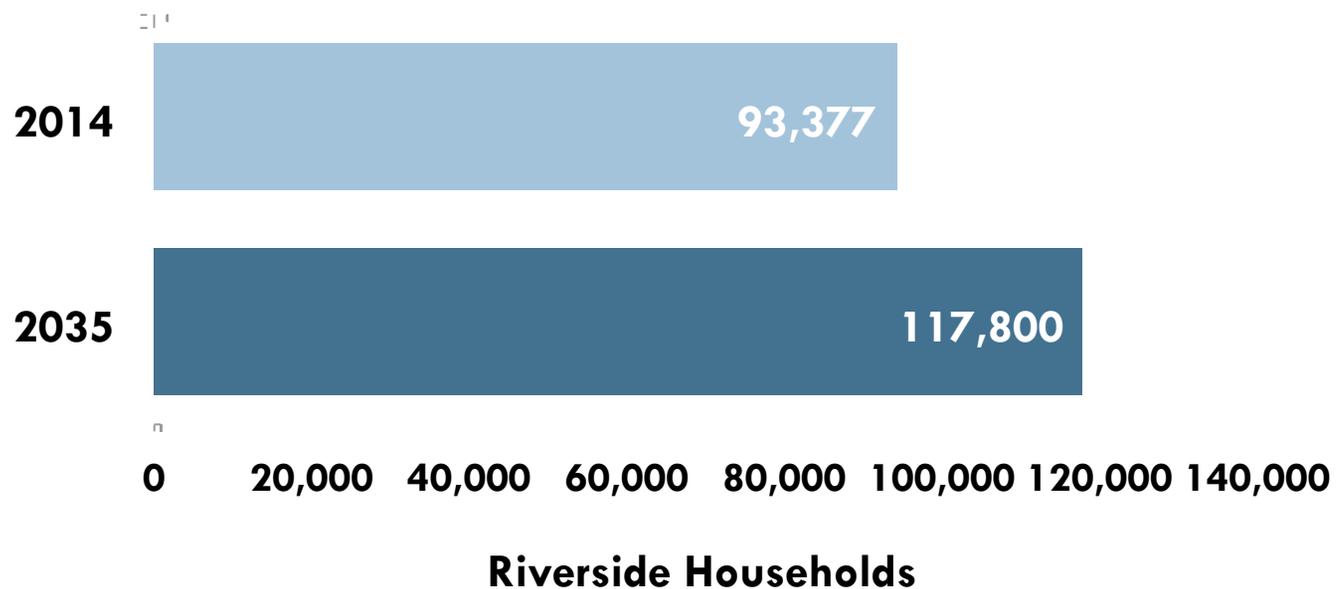


Sources: California Dept. of Finance (DOF) for 2014; Southern California Association of Governments (SCAG) for 2035.

FUTURE HOUSEHOLD GROWTH

Based on SCAG projections, Riverside will grow

- Up to 24,000 new households by 2035 (25% growth)

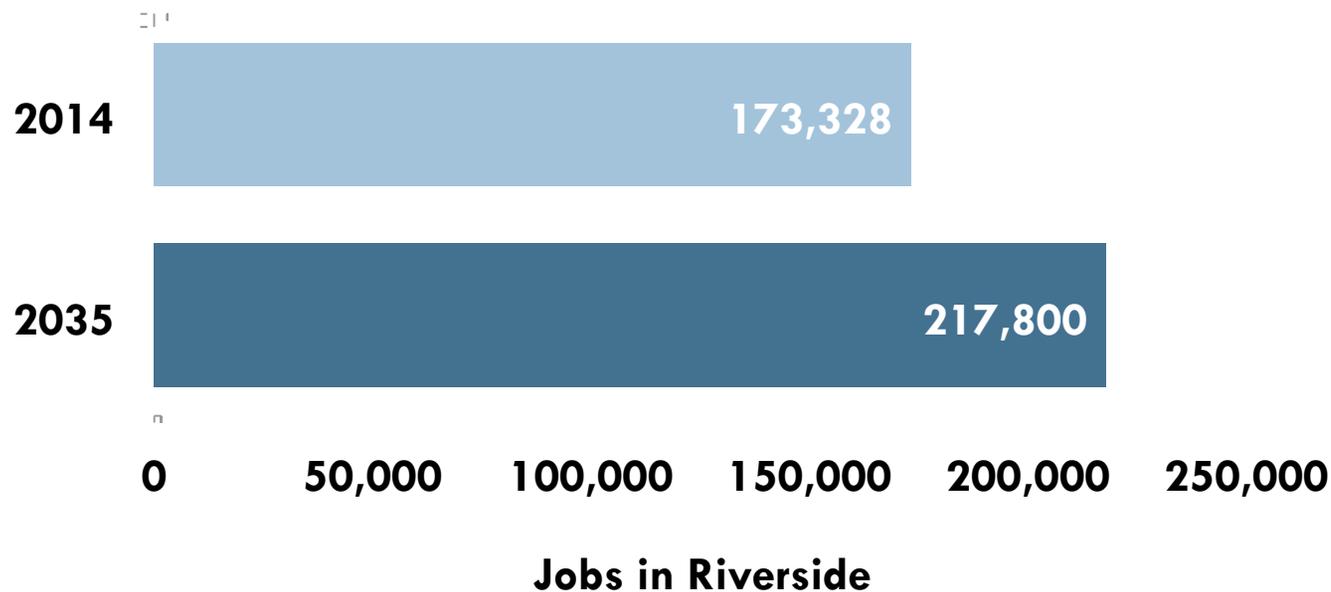


Sources: California Dept. of Finance (DOF) for 2014; Southern California Association of Governments (SCAG) for 2035.

FUTURE JOB GROWTH

Based on SCAG projections, Riverside will grow

- Up to 45,000 new jobs by 2035 (25% growth)

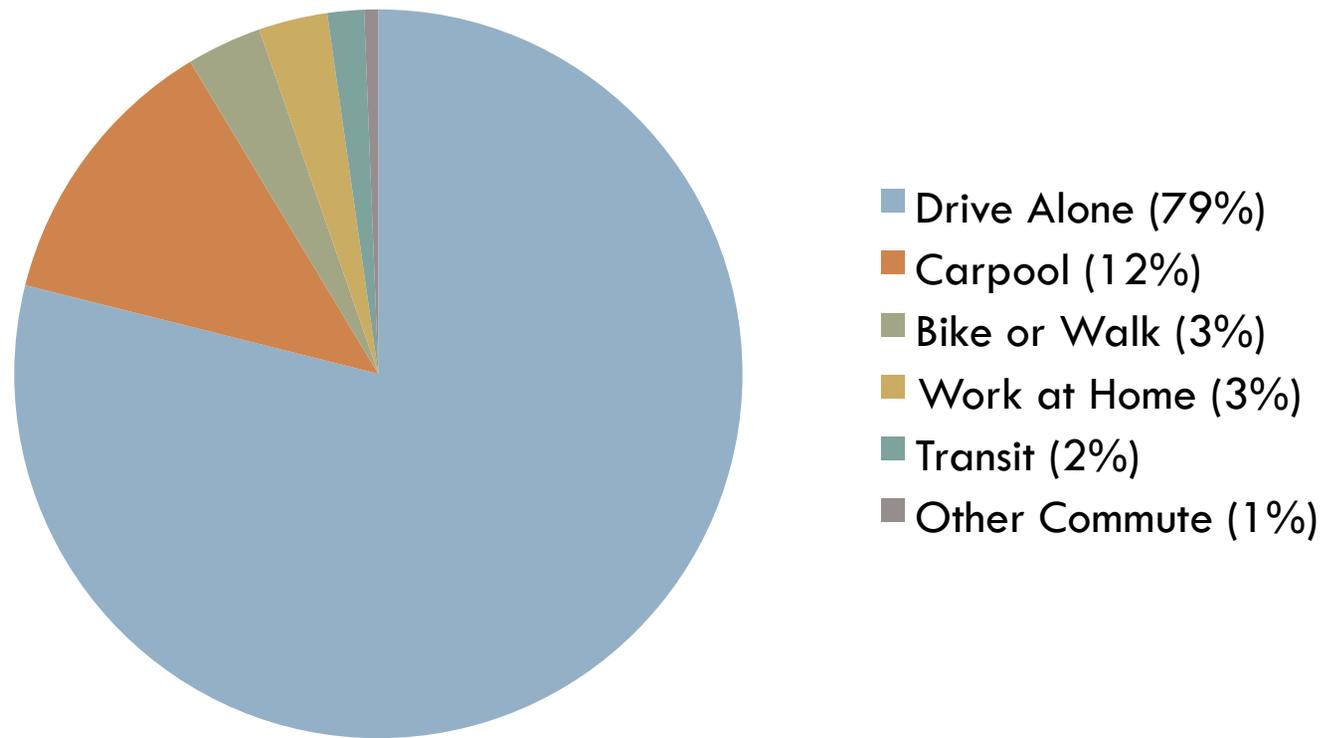


Source: Southern California Association of Governments (SCAG) for 2014 and 2035. 2014 figure interpolated by BAE based on SCAG 2008 – 2035 employment projections prepared in 2012.

COMMUTE PATTERNS

Riverside is growing

- Over 90 percent of Riverside workers drive or carpool to work



COMMUTE FLOWS (2011)



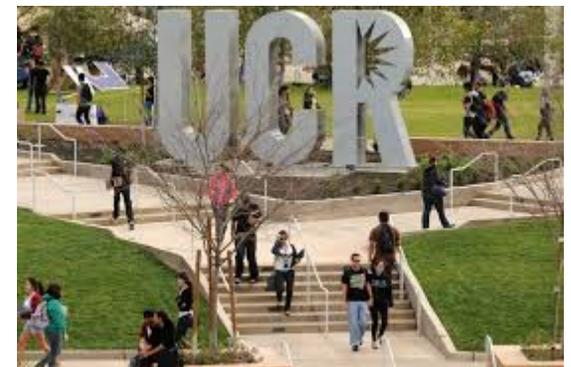
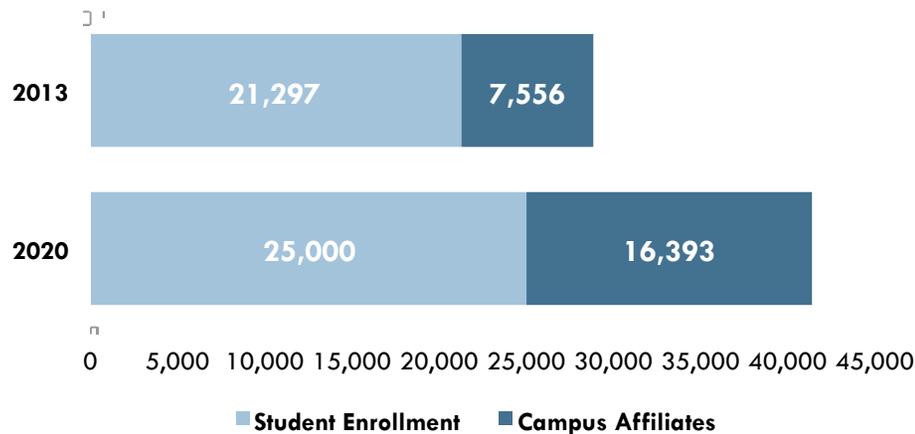
Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2nd Quarter of 2011.

UC RIVERSIDE

Published UCR projections

- Growth from 29,000 students, faculty, and staff to 41,000 by 2020
- New School of Medicine on West Campus

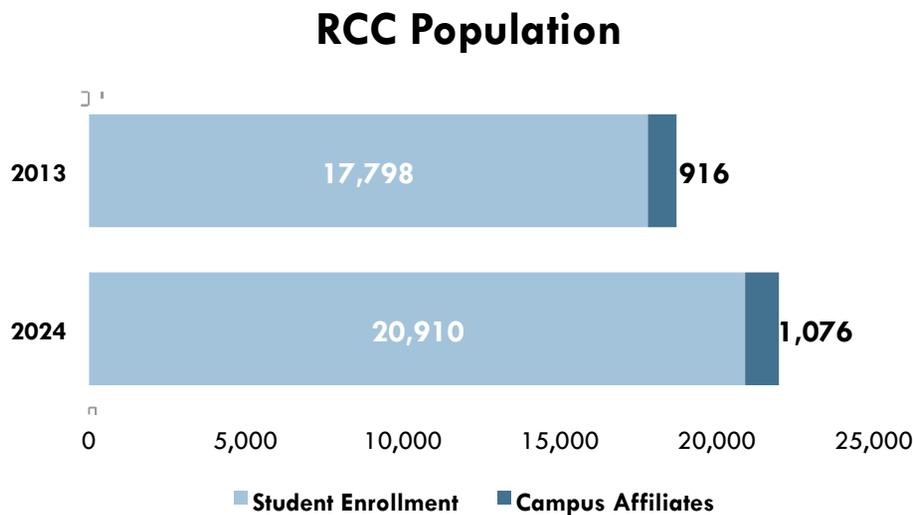
UCR Population



Sources: UCR Strategic Academic Research & Analysis for 2013 figures; 2005 Long Range Development Plan (LRDP) for 2020 projections. Campus Affiliates in 2020 include School of Medicine visitors, patients, and staff plus UCR faculty and staff.

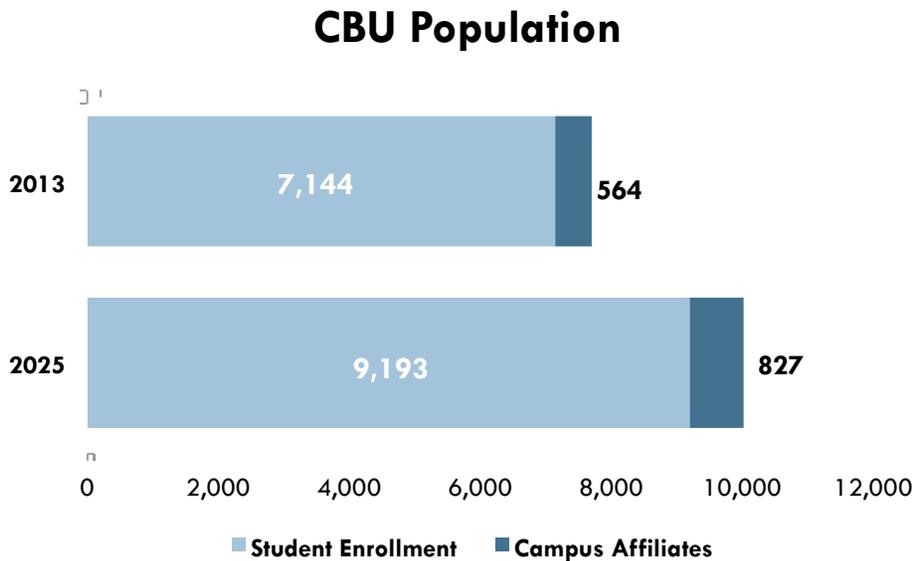
RCC

- Riverside City College (RCC)
 - Currently enrolls 18,000 students and employs 900 faculty and staff
 - New Cosmetology Building opening in 2020



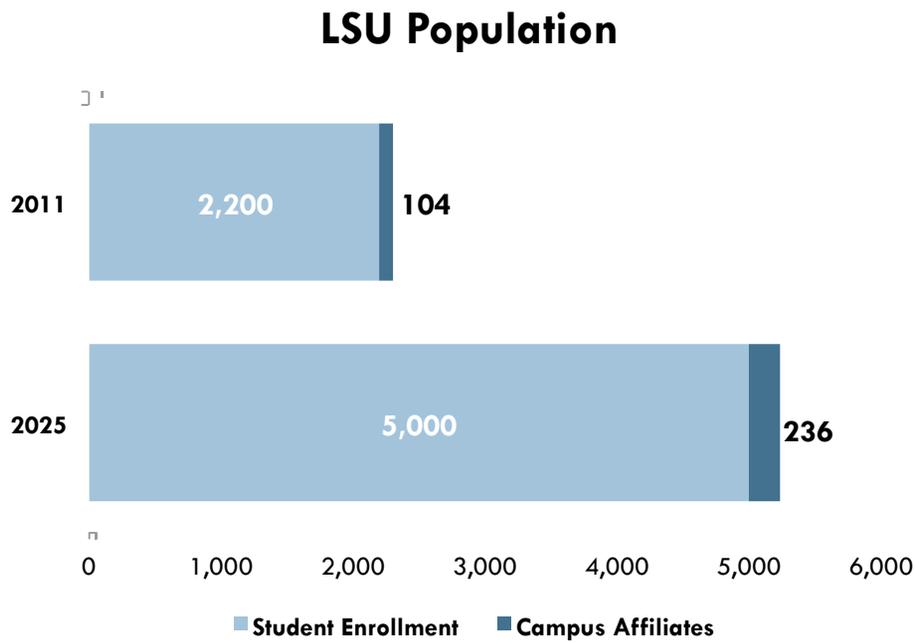
CBU

- California Baptist University (CBU)
 - To add over 2,000 students and 250 faculty and staff by 2025



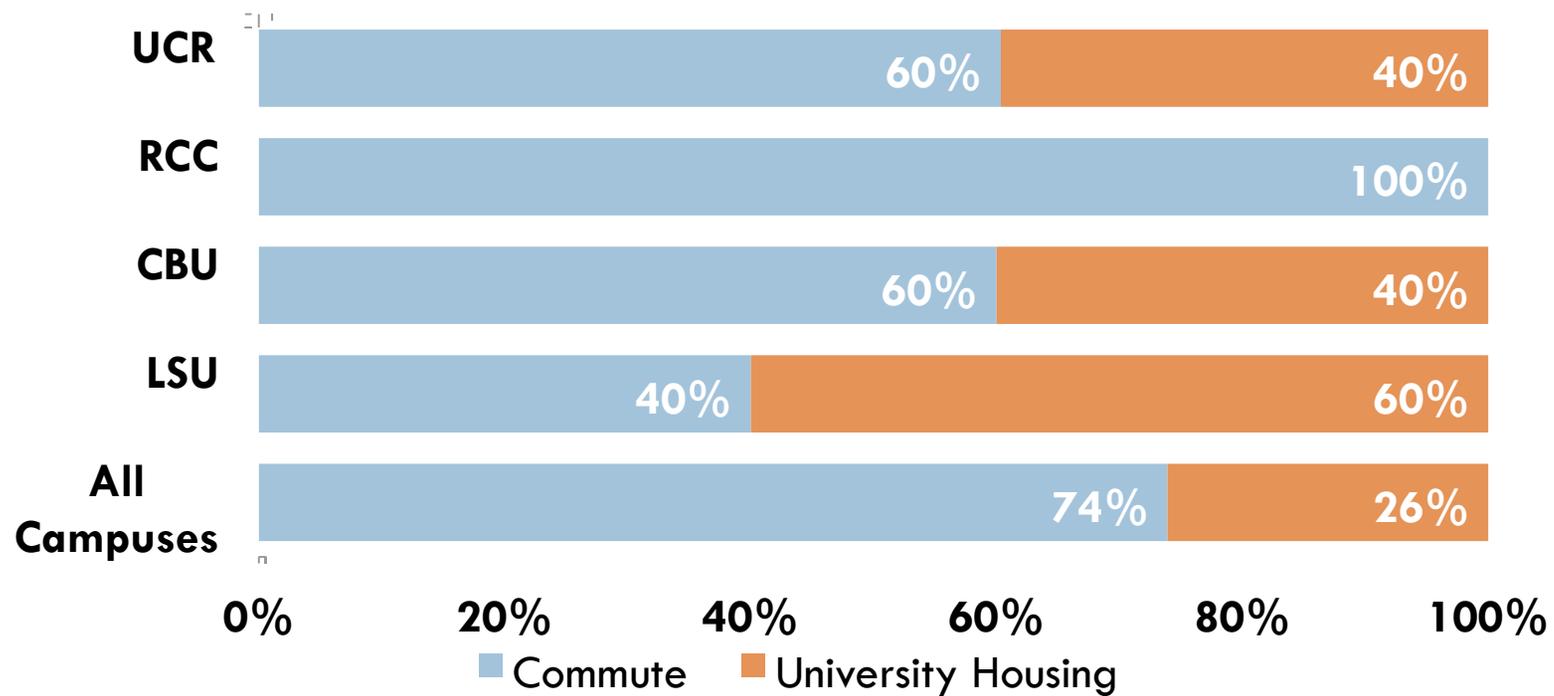
LSU

- La Sierra University (LSU)
 - May add up to 3,300 students in the future



STUDENT COMMUTERS

- Approximately 75 percent of college students in Riverside commute to campus

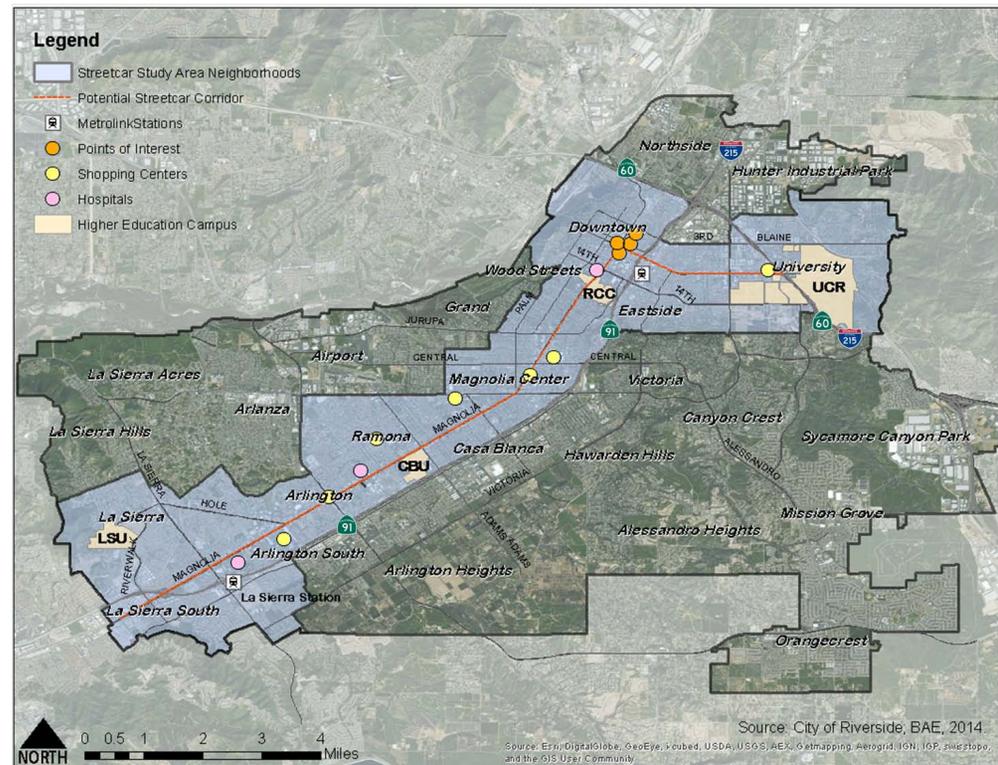


'University Housing' includes all students in university-affiliated housing based on current statistics published by each institution. 'Commute' is defined as total enrollment less students in university-affiliated housing.

WHERE GROWTH OCCURS

SCAG projections show growth to 2035 focused on University, Market, Magnolia corridor

- 60 percent of new residents, households in Study Area
- 50 percent of new jobs in Study Area

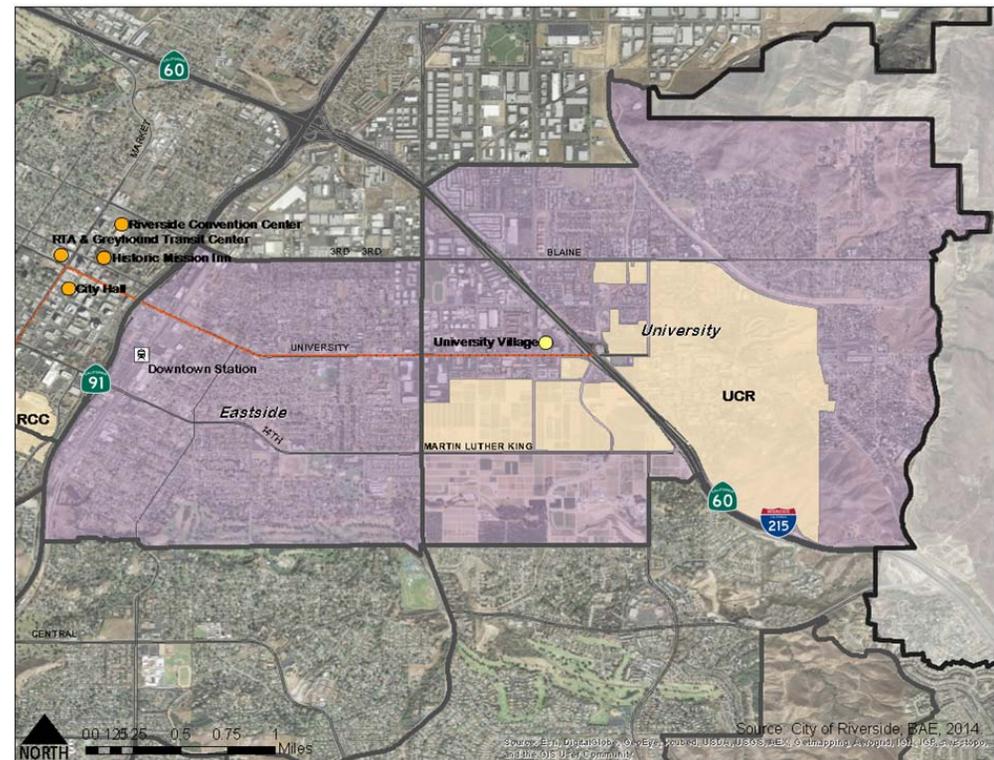


Source: SCAG 2008 – 2035 demographic projections produced in 2012.

UNIVERSITY / EASTSIDE

SCAG projections for growth in the University and Eastside neighborhoods (2008 – 2035)

- 13,500 new residents
 - (40 percent growth)
- 4,000 new households
 - (33 percent growth)
- 10,000 new jobs
 - (45 percent growth)

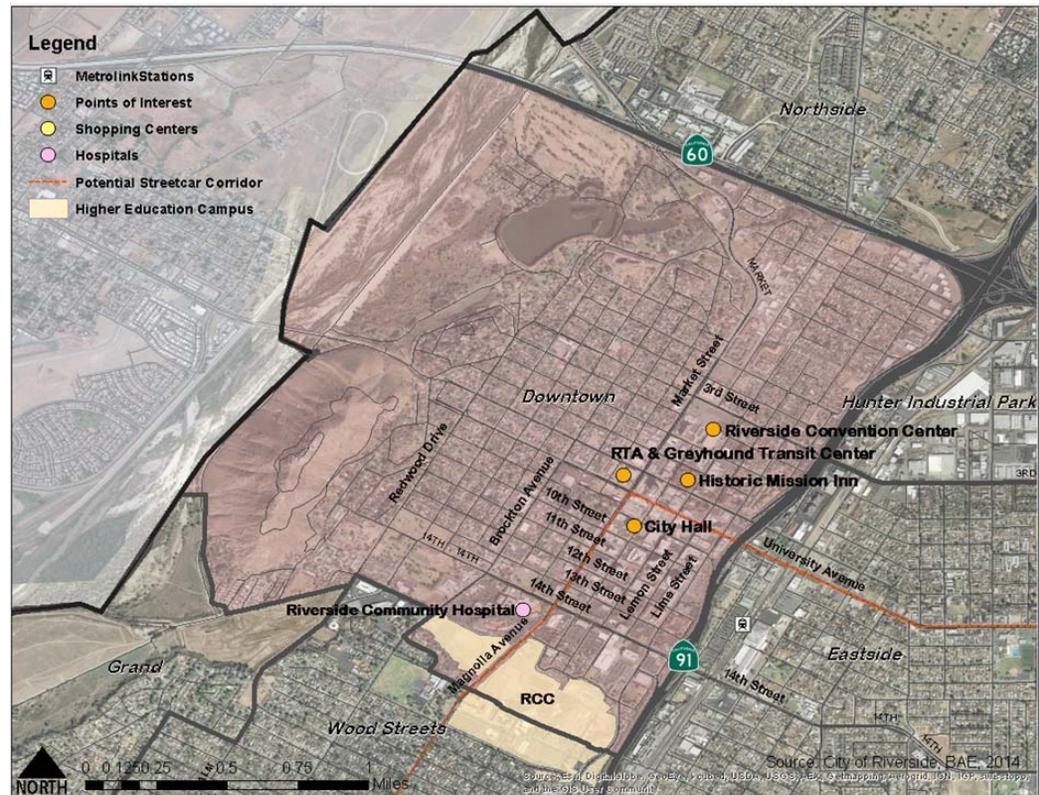


Source: SCAG 2008 – 2035 demographic projections produced in 2012.

DOWNTOWN

SCAG projections for growth Downtown (2008 – 2035)

- 2,500 new residents
 - (20 percent growth)
- 900 new households
 - (20 percent growth)
- 3,500 new jobs
 - (25 percent growth)

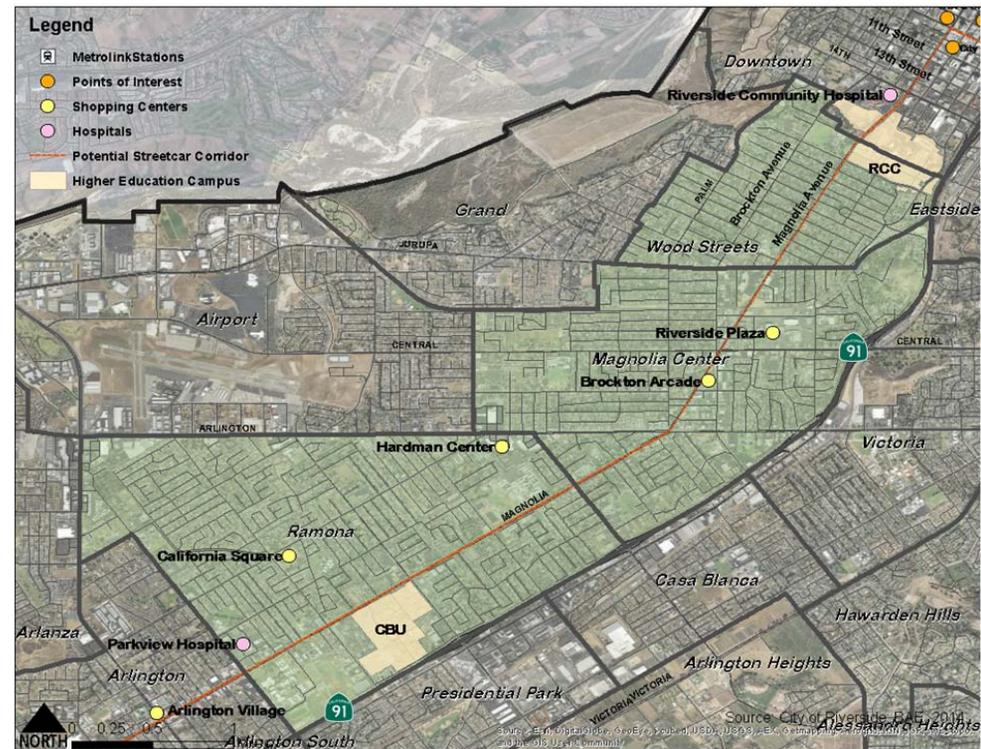


Source: SCAG 2008 – 2035 demographic projections produced in 2012.

SOUTH OF DOWNTOWN

SCAG projections for growth in the Wood Streets, Magnolia, and Ramona Neighborhoods (2008 – 2035)

- 20,000 new residents
 - (40 percent growth)
- 6,500 new households
 - (40 percent growth)
- 11,000 new jobs
 - (45 percent growth)

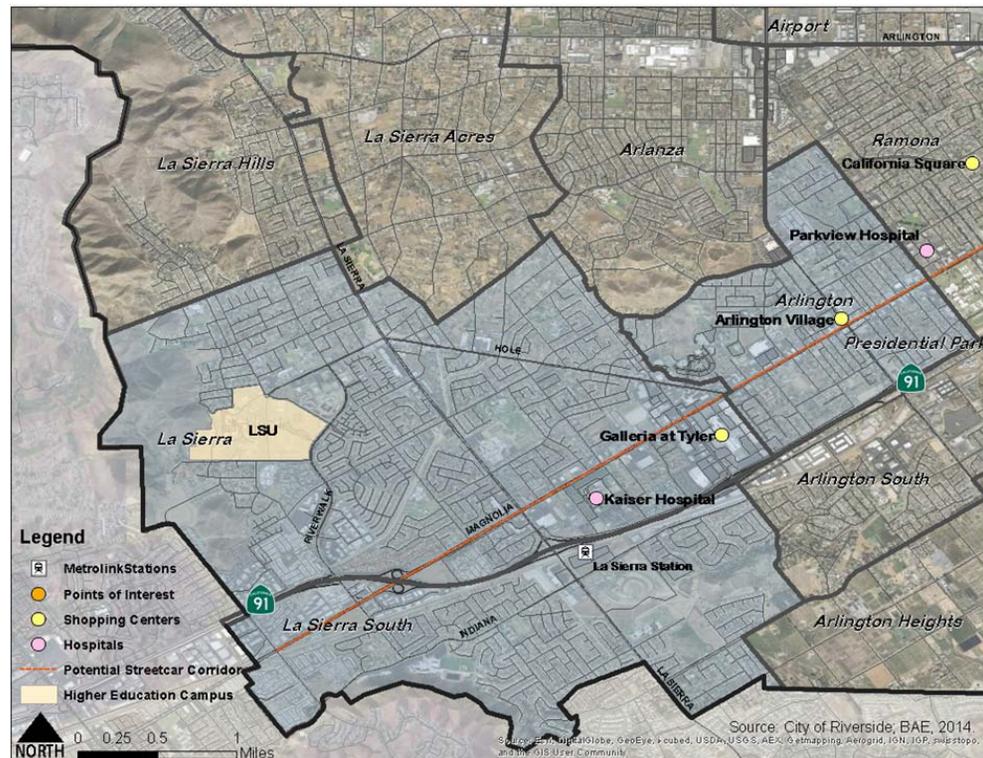


Source: SCAG 2008 – 2035 demographic projections produced in 2012.

SOUTH OF DOWNTOWN

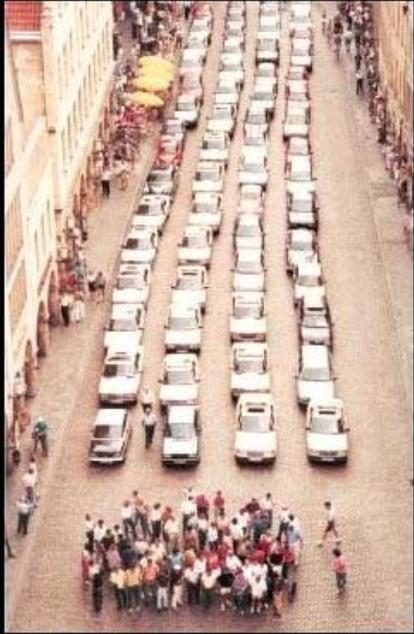
SCAG projections for growth in the Arlington and La Sierra neighborhoods (2008 – 2035)

- 17,000 new residents
 - (40 percent growth)
- 5,000 new households
 - (35 percent growth)
- 10,000 new jobs
 - (50 percent growth)

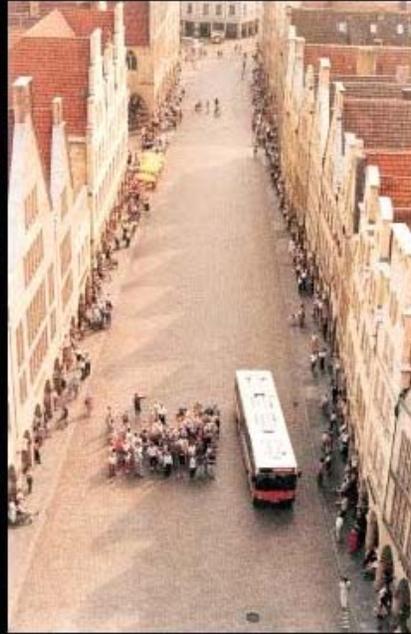


Source: SCAG 2008 – 2035 demographic projections produced in 2012.

space required
to transport **60** people



car



bus



bicycle

STREETCAR & TRANSIT BASICS



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WHAT IS A STREETCAR?

Vehicles typically about 65 to 70 feet in length

- Typical maximum speed of 35 mph, matches local traffic
- Can operate in traffic lanes like a bus
- Operates in a defined area (downtown, university, etc.)
- Initial routes 3 to 5 miles in length, full system can be longer
- Frequent service (~15 minutes or better)
- Frequent stops (~1/8 to 1/4 mile)

TYPES OF STREETCAR



Historic Replica



Historic



Modern

PROPULSION OPTIONS



Single Wire



Double Wire



Modern Electric Trolley



In-Ground or Self Propelled

STREETCAR VS. LIGHT RAIL

Light Rail – Metro Gold Line, San Diego Trolley

- Larger and longer vehicles (~90 feet long)
- Higher passenger capacity
- Greater spacing between stations (1/2 mile to 1 mile)
- Faster operating speed designed for intercity travel



STREETCAR VS. COMMUTER RAIL

Commuter Rail - Metrolink

- Operates on freight rail tracks, using diesel-powered locomotives
- Larger and longer trains (multiple passenger cars)
- Even greater spacing between stations (2 miles to 5 miles)
- Service long distance trips (> 10 to 20 miles)



STREETCAR VS. REGIONAL BUS

Regional Bus – RTA, Omnitrans

- Uses a range of bus sizes
 - Small – 25-30 feet
 - Standard – 40 feet
 - Articulated – 60 feet
- Route structure designed for cross-county travel
- Focus on regional transportation needs and mobility



TECHNOLOGY OPTION

Modern Electric Trolley (rubber-tire vehicle)

- Used Widely in Europe
- Under Study in United States as Streetcar Alternative
- Potentially Lower Construction Costs



STUDY OBJECTIVES

- Identify potential alignments and station locations
- Assess ridership potential
- Develop conceptual construction and operating costs
- Analyze feasibility based on local, state, and federal criteria
- Identify opportunities for funding



ANALYZING FEASIBILITY

Ridership Demand

- Population and Employment
- Key Destinations
- Connections to Transit
- Potential Ridership Numbers



ANALYZING FEASIBILITY

Technology/Operations

- Rail or Rubber-Tired
- Mixed-Traffic or Dedicated Right-of-Way
- Maintenance and Fuel Needs
- Compatibility with Other Transit

Alignment

- Route and length
- Station locations and spacing



ANALYZING FEASIBILITY

Physical Environment

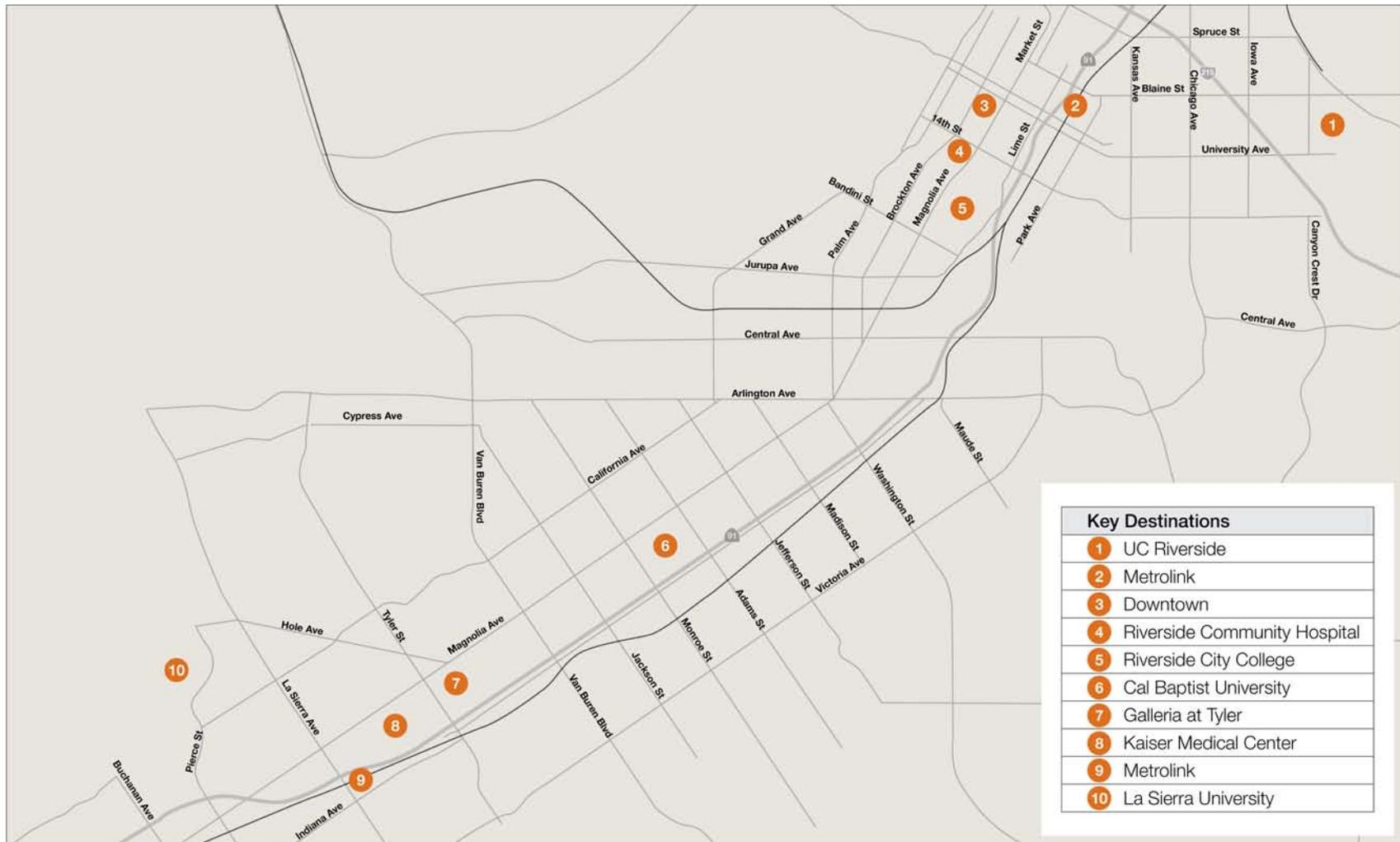
- Traffic compatibility
- Right-of-way availability
- Integration with regional transit
- Infrastructure conditions (street, utilities)

Costs

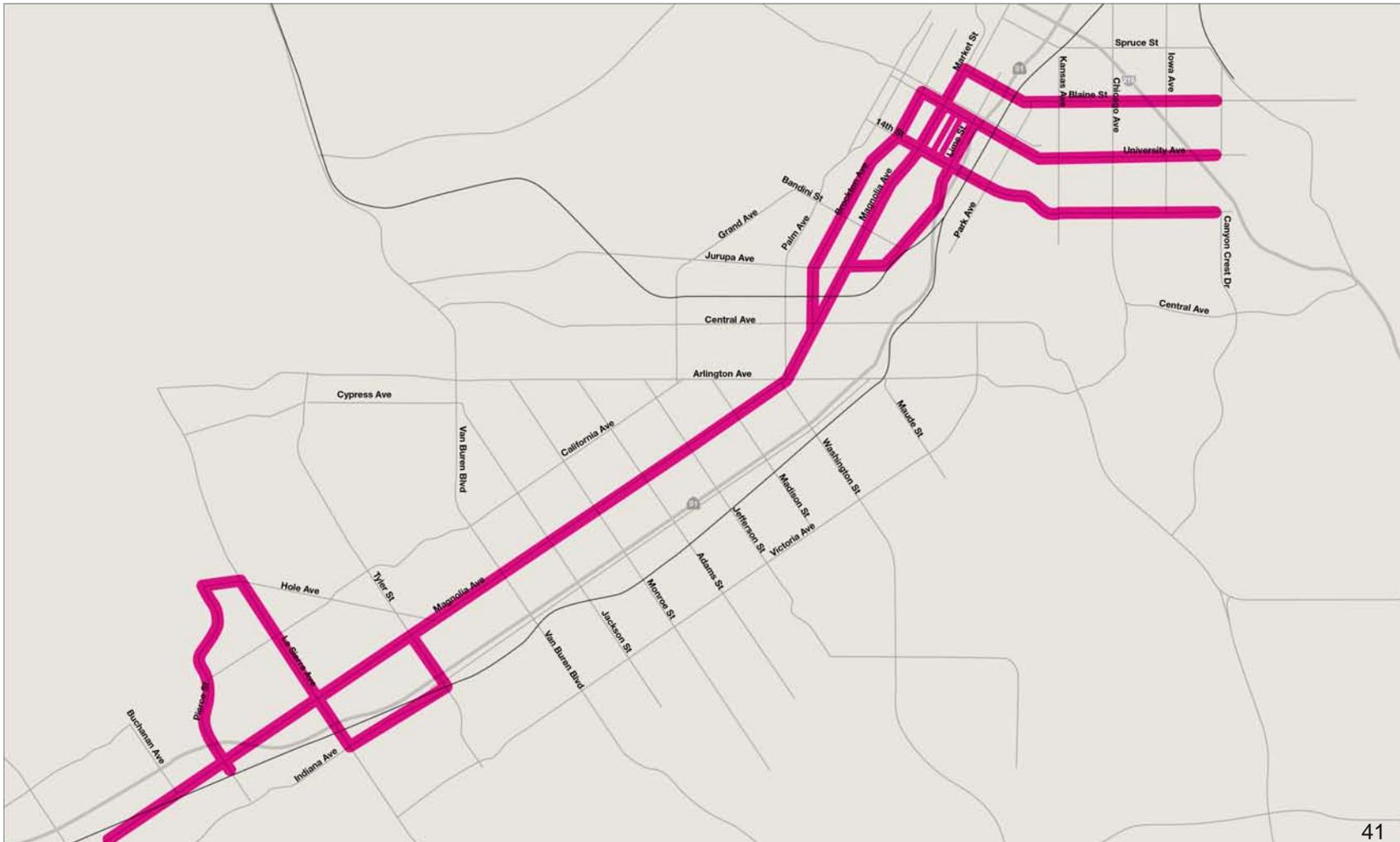
- Construction costs and funding
- Operating costs and funding



KEY DESTINATIONS



SAMPLE ROUTE IDEAS



KEY ALIGNMENT ATTRIBUTES

- Operates in a defined area (downtown, university, etc.)
- Connects to regional transit
- Serves multiple types of users (residents, employees, students, tourists)
- Can operate in streets with mixed traffic



EVALUATION CRITERIA

Community Considerations

- Land Use Compatibility
- Noise/Visual Impacts
- Population and Employment

Operations

- Travel Time
- Ridership
- Costs
- Physical Constraints



EVALUATION CRITERIA

Transportation Considerations

- Traffic Impacts
- Connectivity to Activity/
Employment Centers
- Connectivity to Other Transit

Economic Considerations

- Economic Development Potential
- Job Creation





KEY CONSIDERATIONS FOR STREETCAR



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LAND USE & DEVELOPMENT

Streetcars generate the greatest benefit when they increase mobility and connect new development along a route

- Focus is on $\frac{1}{4}$ - $\frac{1}{2}$ mile on either side of a route
- Attracts developer and employer interest in new projects
- Higher education and institutions growth impacts mitigated



LAND USE & DEVELOPMENT

Development does not need to be continuous along a route – connect clusters of new development

- Protect existing residential neighborhoods on the route
- Increase density at appropriate locations



FINANCING & OPERATIONS

Strategies for funding construction and operation:

- No impact on City's General Fund
- Don't compete with funding for existing RTA service
- Seek financial support from those who benefit from a streetcar

Potential funding sources:

- Federal transit funding
- State, regional, local sources
- Farebox revenues
- Assessments on new development
- Private investment



PLANNING & IMPLEMENTATION

Streetcar routes are usually developed in phases

- Initial segments are often 2 – 3 miles in length

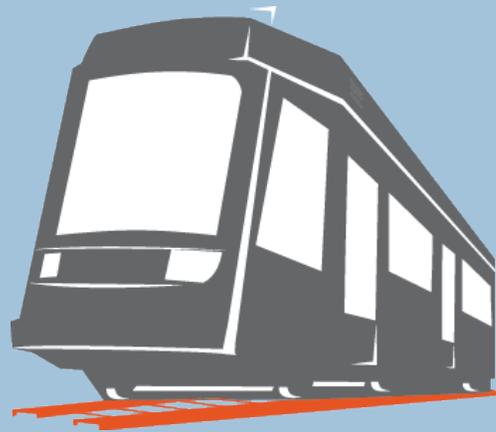
Timing can vary based on funding sources:

- Federal funding: 8 years +
- Without federal funds: 4 years +

Planning would begin after feasibility study, Council action

- Study answers the question of would it work and how – but isn't a plan ready to implement

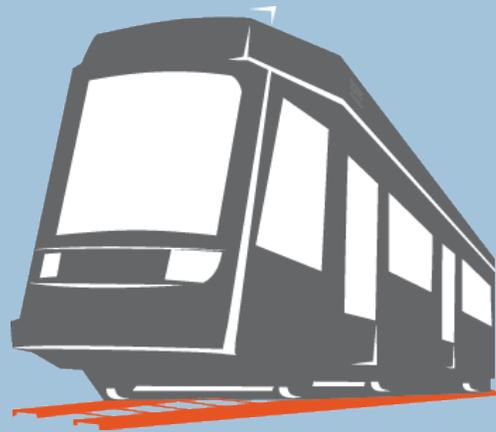




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QUESTIONS &
ANSWERS



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**GROUP EXERCISE:
DESTINATIONS &
ROUTES**

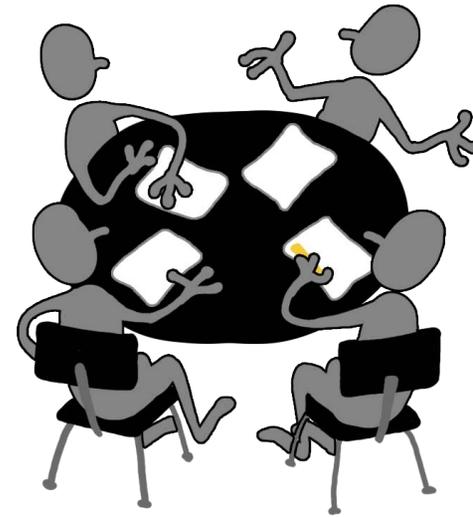
SMALL GROUP EXERCISE: POTENTIAL ROUTES

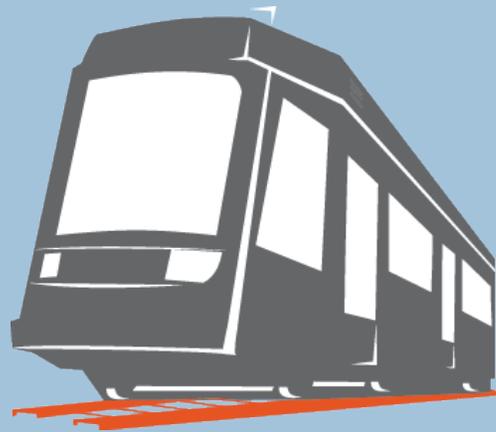
- Discuss as a Group:
 - Key destinations that should be served
 - Potential routes to connect to the destinations
 - Pros and Cons associated with the potential routes

- Map and Comment:
 - Identify 1 – 2 preferred alignments
 - Use a Highlighter to mark the route(s)
 - Write down what you like about your preferred route
 - Write down what you don't like about the other routes
 - Note any preferred stops (location and frequency)

EXERCISE GUIDELINES

- Try to give "equal air time" to everyone in the group
- If you do not understand what another person has said, ask for clarification
- Respect the contributions of others





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**GROUP EXERCISE:
DESTINATIONS &
ROUTES**

NEXT STEPS



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Stay Informed! Participate in the Discussion:

- Project website: www.riversidereconnects.org
- MindMixer website on: www.EngageRiverside.com

Community Charrette on alignments, development

- Late September
- Announced on MindMixer, riversidereconnects.org

THANK YOU!