

Late Backup

94

DOWNTOWN AUSTIN PLAN: Downtown Urban Rail Connections



JULY 24, 2008
CITY COUNCIL BRIEFING

ROMA DESIGN GROUP
LTK • KIMLEY-HORN • HDR/WHM • STUDIO B • CMR • HR&A • GROUP SOLUTIONS

Summary of Downtown Austin Plan (DAP) to Date

PHASE ONE (4/07 – Present):

- Assess existing conditions
- Identify vision for Downtown
- Identify strategies for achieving the vision
- Public outreach (50+ stakeholder meetings, B & C briefings, 1/08 town hall meeting)
- 2/14/08: Presented Phase One Report to City Council
- 2/28/08: Council authorized transportation master planning, including evaluating urban rail to connect Downtown to:
 - ABIA
 - Mueller
 - Zilker Park

Summary of DAP Rail Planning to Date

3/08: ROMA Team, including LTK, conducted interagency workshop to evaluate various alignments, integration with land uses, streets (Cap Metro, CAMPO, ASAICRD, affected City departments, and others participated.)

4/08: Town Hall Meeting

6/08: Second interagency workshop to review final draft report

TODAY'S COUNCIL BRIEFING:

- What were key findings of the DAP Phase One Report?
- Why are we considering rail, and how could it work in Austin?
- Where should it go and how should it get there?
- How much will the system cost?
- How can it be phased?

Recommended Next Steps

DIRECT STAFF TO:

1. Seek further public input on consultant's conceptual rail project.
2. Work with Capital Metro to prepare submittal for CAMPO TWG Decision Tree evaluation, financing plan.
3. Present project submittal to Council for review/forwarding to CAMPO TWG.

DOWNTOWN AUSTIN PLAN

Downtown Urban Rail Connections

- 1. Key Findings from DAP Phase One**
- 2. Why Rail and How Can it Work in Austin?**
- 3. Where Should it Go? How Should it Get There?**
- 4. How Much Will it Cost?**
- 5. How Can it be Phased?**

1. Key Findings from DAP Phase One

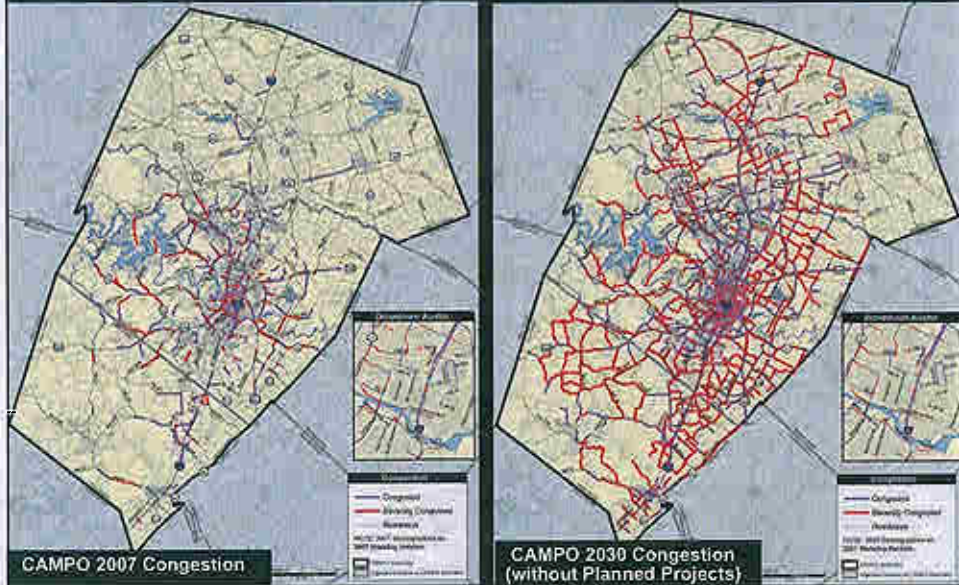
Mobility is the principal challenge facing Downtown and the Region.

- 147 lane miles of freeways and toll roads constructed over past 15 years
- Less than 5% of major transportation spending for transit
- Transit ridership is low; 79% of downtown employees drive alone to work
- 3.6% of residents throughout region use transit



1. Key Findings from DAP Phase One

The CAMPO 2030 Plan calls for a \$6.4 billion investment in transit, about 30% of CAMPO's overall transportation budget.



1. Key Findings from DAP Phase One

What is at stake?

Realizing our Goals and Policies for Environmental Sustainability



Austin: 55th of 100 largest US Metro areas in carbon emissions
...2.72 metric tons of CO₂ per resident/year

Source: U.S. Environmental Protection Agency, Greening the Economy: Reducing Carbon Emissions

1. Key Findings from DAP Phase One

What is at stake?

Lack of Mobility is Affecting Downtown's Role as the Cultural and Commercial Heart of the Region.



1. Key Findings from DAP Phase One

What is at stake?

Lack of Transportation Options Affect Affordability and Social Equity.



Average Annual Household Expenditures, 2004

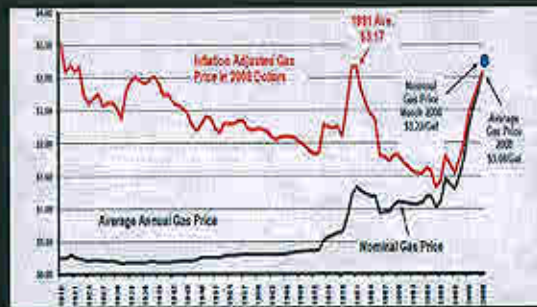
Item	% of Total Expenditure
Shelter (mortgage or rent)	32%
Car Ownership/Operation	17%
Food	13%
Pensions & Social Security	10%
Utilities	7%
Health Care	6%
Entertainment	5%
Clothing	4%
Household Furnishing	4%
Education	2%

Source: Bureau of Labor Statistics Current Expenditures on the Consumer Tables

1. Key Findings from DAP Phase One

What is at stake?

Lack of Transportation Options Affect Affordability and Social Equity



GASOLINE PRICES 1918-2008 ADJUSTED FOR INFLATION

Now that gas is over \$4/gallon, the average price in inflation adjusted terms is at an all-time high.

Source: U.S. Bureau of Economic Analysis

1. Key Findings from DAP Phase One

What is at stake?

The Ability to Create a Pedestrian-Oriented Downtown



Sidewalk Interruptions



Drive-through Banks



Parking Garages



Wide Streets/Narrow Sidewalks

1. Key Findings from DAP Phase One

Downtown Portland, Oregon: A Vibrant Pedestrian Oriented City



- City Population¹
Portland = 545,000
Austin = 656,000
- Transit Daily Ridership²
Portland = 320,000
Austin = 130,000
- CO₂ Hwy Emissions³
(per capita)
Portland = 1.0 metric tons
Austin = 1.5 metric tons

Source: 1. U.S. Census Bureau; 2. TriMet Transit System; 3. Transportation Planning Board

1. Key Findings from DAP Phase One

Downtown Portland, Oregon: A Robust Transit System including:



Bus

- 92 Lines
- 205,000 Average Weekday Trips
- Routes Converge on Downtown Mall



Light Rail

- 104,000 Average Weekday Trips
- Replaces 72,000 car trips/day
- 44.3 miles in length
- Dedicated Transit Way



Streetcar

- 7-mile Loop
- Downtown Circulator
- Shares Roadway with Cars
- 8,000 Average Weekday Riders

Source: TriMet

1. Key Findings from DAP Phase One

Downtown Portland: Streetcar Facts (Westside to Date)

Total Length: 3.0 Miles Double Track + 0.6 Miles Single Track

Total Cost: \$88.7 Million (3 Phases) = \$25 Million/Mile Double Track

Funding Sources

Tax Increment Financing:	22%
Streetcar Improvement District	16%
MPO Funds	30%
Parking Meter Funds	32%



Source: TDM

1. Key Findings from DAP Phase One

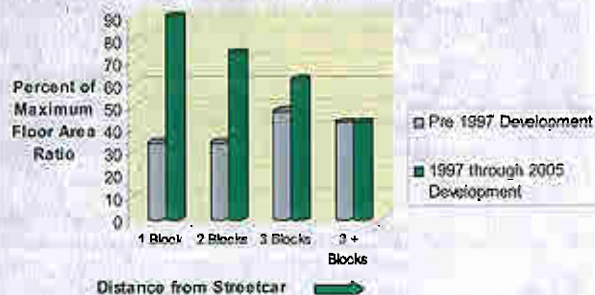
Downtown Portland Oregon: Streetcar Facts (Westside to Date)

Development Impact: 1997 to 2005

- \$2.8 Billion Invested Within 3 Blocks of Streetcar Route
- 7200 Dwelling Units
- 4.6 MSF Commercial

The streetcar has proven to be a powerful catalyst for downtown investment and density.

Development Potential Achieved in Westside
(By Distance from Streetcar)



Source: TDM

2. Why Rail, and How Can it Work in Austin?

Passengers prefer rail because of increased comfort and greater capacity.



Regional Commuter Rail



Inter-Urban Light Rail



Streetcar Circulator Rail

- Proven increase in ridership over bus-only cities
- Most significant decrease in automobile trips and parking
- Reduction in operating cost per passenger
- More sustainable
- Fixed routes influence land use patterns and promote density
- Best suited to corridors where destinations are concentrated

(Source: New American Cities, Smart Growth Program, International Brotherhood of Teamsters, American Public Works Union)

2. Why Rail, and How Can it Work in Austin?

It can complement and extend the bus system.



PROPOSED PRIMARY BUS ROUTES

- Cap Metro's bus system carries 130,000 riders daily and includes:
- 4,000 Stops
 - 24 Local Service Routes
 - 12 Limited & Flyer Routes
 - 4 Feeder Routes
 - 12 Crosstown Routes
 - 25 Dillo & Special Service Routes
 - 15 UT Shuttle Routes (largest in US)
 - 8 Express Routes
 - 15 Park & Rides



2. Why Rail, and How Can it Work in Austin?

It can extend the reach of the commuter rail system within the Center City.



POTENTIAL COMMUTER RAIL SYSTEM

2. Why Rail, and How Can it Work in Austin?

There are two principal, electrified urban rail technologies:



LIGHT RAIL

- Operates on *dedicated* trackway
- Operates within 15 to 20 miles of city center
- 1 to 3 car trains: 450 passengers/train
- \$30 to \$50+ million/mile



STREETCAR

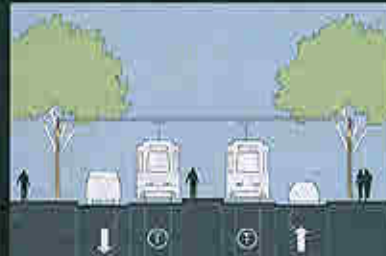
- Shares traffic lanes with autos
- Operates within 5 to 10 miles of city center
- 1 car trains: 120 passengers/vehicle
- \$20 to \$30+ million/mile

2. Why Rail, and How Can It Work in Austin?

Rail can operate in its own lane, or share lanes with autos.

DEDICATED (EXCLUSIVE)

- Rail occupies own lane, typically in median, with auto lanes on either side
- Passenger platforms are in median
- Dedicated or "exclusive-running" is typical for light rail (LRT), but also suitable for streetcars



TYPICAL LRT DEDICATED TRACK

SHARED

- Rail shares lane with autos
- Typically at curbside with direct passenger access from sidewalks
- "Shared-running" is typical for streetcar



TYPICAL STREETCAR SHARED LANE

2. Why Rail, and How Can It Work in Austin?

LIGHT RAIL



PORTLAND, OREGON: DOWNTOWN LIGHT RAIL SIDE-RUNNING

2. Why Rail, and How Can It Work in Austin?

LIGHT RAIL



SAN JOSE, CALIFORNIA: DOWNTOWN LIGHT RAIL SIDE-RUNNING

2. Why Rail, and How Can it Work in Austin?

LIGHT RAIL



SAN JOSE, CALIFORNIA: DEDICATED MEDIAN-RUNNING LIGHT RAIL

2. Why Rail, and How Can it Work in Austin?

LIGHT RAIL



SAN JOSE, CALIFORNIA: MEDIAN STATION

2. Why Rail, and How Can it Work in Austin?

EUROPEAN STREETCAR



Grenoble, France

Bernsdorf, Germany



2. Why Rail, and How Can It Work in Austin?

PORTLAND STREETCAR



3. Where Should it Go? How Should it Get There?

City Council directed ROMA to evaluate rail alignments connecting Downtown, Capitol and UT with 3 principal destinations:



Mueller Redevelopment

- 10,000 Residents
- 10,000 Employees



Austin Bergstrom Int'l Airport

- 8 million+ passengers/year
- Non-stop service to 51 cities



Zilker Park

- ACL Festival: 75,000 people
- Long Center: 200 events/year

3. Where Should it Go? How Should it Get There?

Four Key Evaluation Criteria Consistent with CAMPO "Decision Tree":

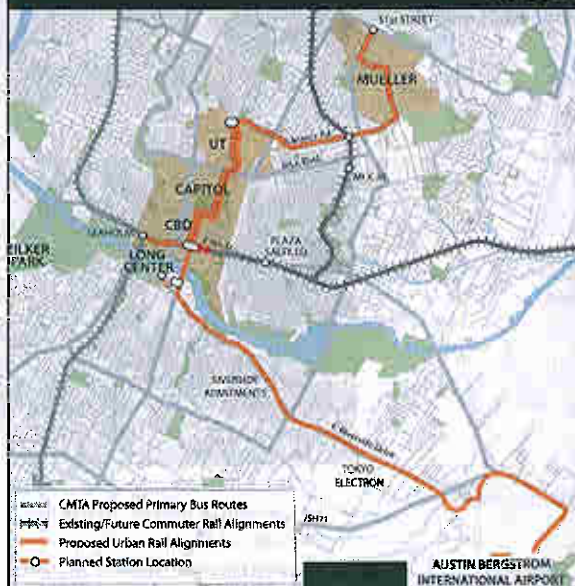


1. Connect Existing Destinations; Link Jobs and Housing
2. Serve Transit-Dependent Populations; Maximize Ridership
3. Support and Catalyze Transit-Oriented Development
4. Be Cost Effective

Note: All options must be consistent with neighborhood plans and city policies.

3. Where Should it Go? How Should it Get There?

RECOMMENDED RAIL PROJECT:



- 15.3-mile streetcar system
- Mostly dedicated-running system
- 700-foot extension of Red Line to Brazos St.

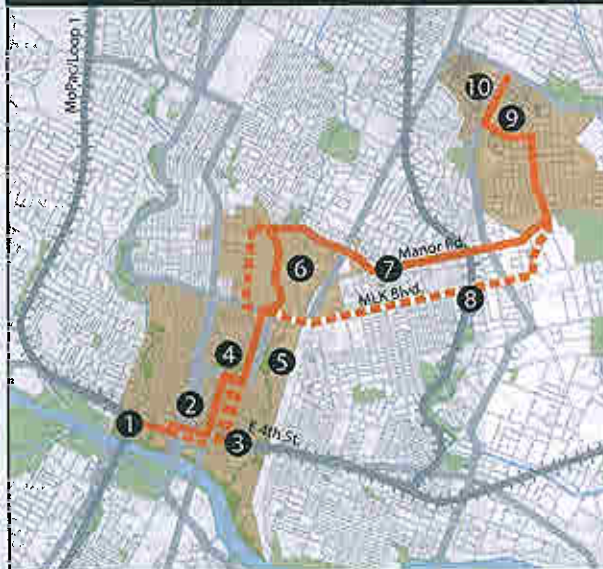
2 OVERLAPPING ROUTES:

1. Seaholm - Mueller: 6.7m
(10-minute headways)

2. ABIA - UT: 9.9 m
(10-minute headways)
- Downtown/Capitol/UT
(6 to 7-minute headways)
 - Long Center
(Evenings and Weekends)

3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller: 6.7 miles, ~ 30-minutes



DESTINATIONS:

1. Seaholm
2. CBD
3. Red Line
4. Capitol Complex
5. Brackenridge Hospital
6. UT Campus/Stadium
7. Manor Rd. Restaurants
8. Red Line/MLK TOD
9. Mueller Town Center
10. Dell Children's Hospital/UT Health Campus

3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller via Manor Road



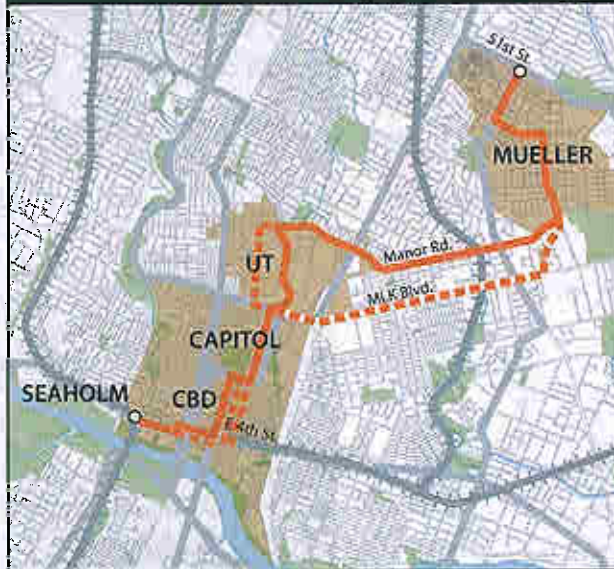
275 acres of development potential within 1500 feet of rail corridor

- Shorter-Term Development Potential
- Longer-Term Development Potential
- Regional Rail Alignments
- Potential Circulator/Streetcar Alignments

3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller via Manor Road

Advantages/Disadvantages of Manor Road Alignment

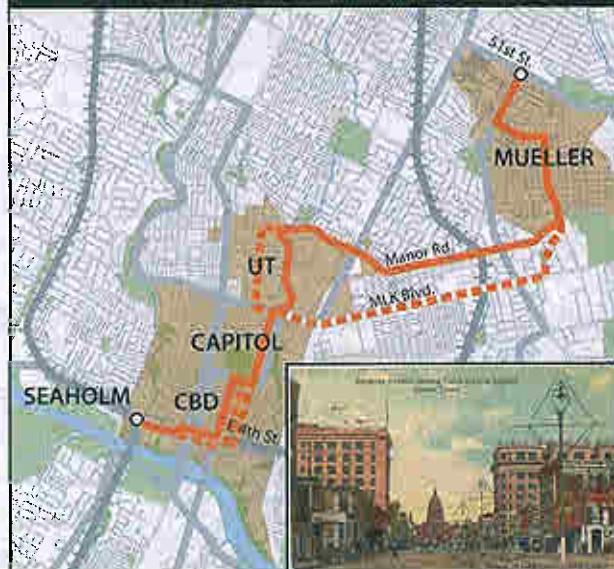


- + Provides direct service to UT campus
- + Provides service to "Restaurant Row"
- + Potential site for maintenance facility
- + Greater development potential along line
- + Less important vehicular corridor
- Would require additional Red-Line station at Manor Road

3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller via Manor Road

Advantages/Disadvantages of Congress Avenue

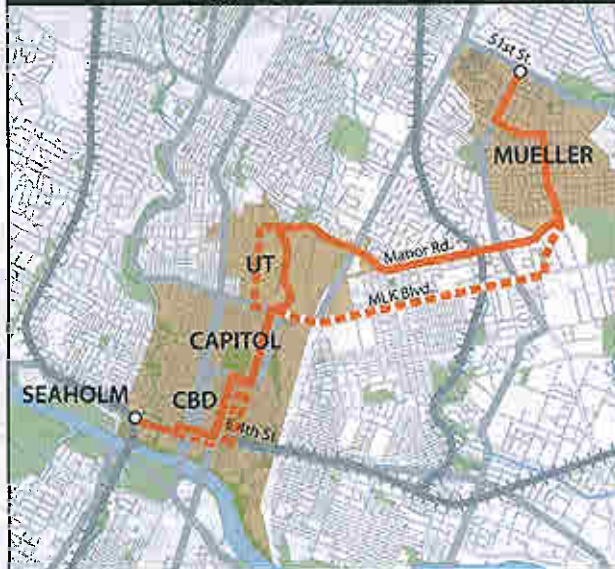


- + More equitable coverage downtown
- + Most direct service to employment destinations
- + Highly understandable
- + Grades suitable for rail
- + No parking garage conflicts
- + Buses would be moved to another street
- + Could strengthen role as cultural/retail spine
- Concern re: axial views to Capitol
- Conflict with parades
- One block to Red Line

3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller: via Manor Road

Alignment variations that could be studied in more depth:



- Speedway through UT versus San Jacinto
- Brazos or San Jacinto Street versus Congress
- 9th or 10th Street versus 11th Street

3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller via Manor Road

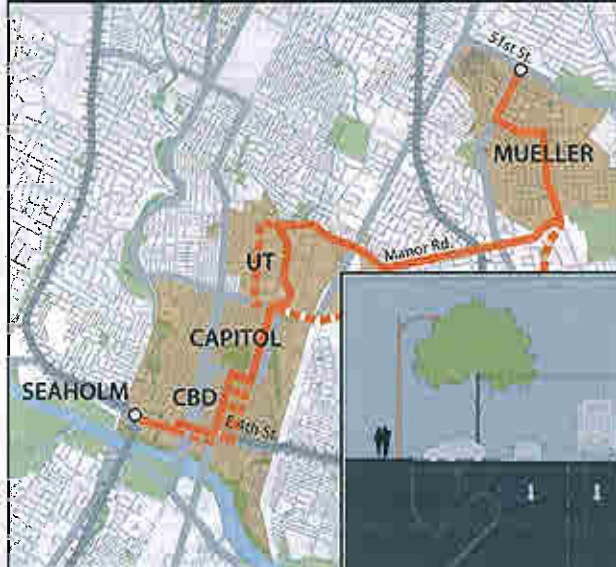
Red Line "Metro Rail" - Streetcar - Bus Transfer



3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller via Manor Road

Congress Avenue Streetcar Options: *Shared Median-Running*



Diagonal parking is retained along curbside.



3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller via Manor Road

Congress Avenue Streetcar Options: *Shared Side-Running*



Diagonal parking is replaced with curbside parallel parking.



3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller via Manor Road

Congress Avenue Streetcar Options: *Dedicated Median-Running*



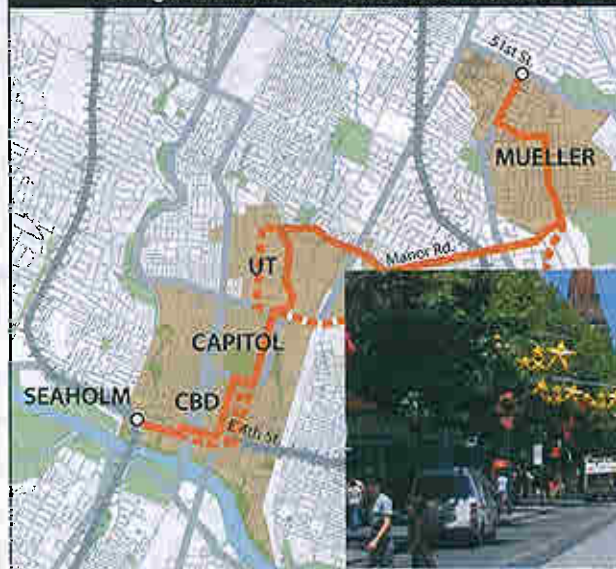
Diagonal parking is replaced with curbside parallel parking between stations; left turns are preserved.



3. Where Should it Go? How Should it Get There?

A. Seaholm to Mueller via Manor Road

Congress Avenue Streetcar Options: *Dedicated Median-Running*



Melbourne, Australia
Dedicated Transit Median



3. Where Should It Go? How Should It Get There?

A. Seaholm to Mueller via Manor Road

Typical Downtown Street: *Shared Side-Running*



3. Where Should It Go? How Should It Get There?

A. Seaholm to Mueller via Manor Road

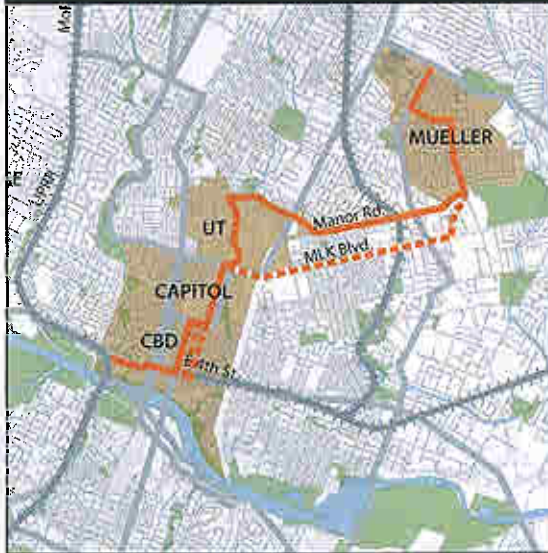
Typical Downtown Street: *Dedicated Median-Running*



3. Where Should it Go? How Should it Get There?

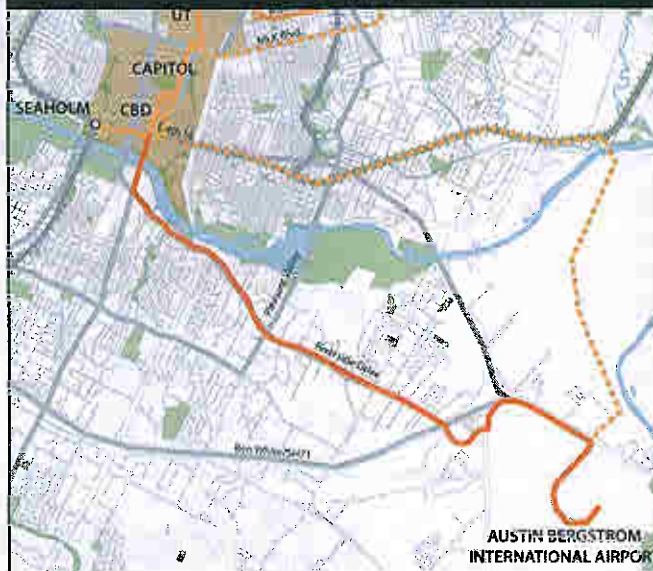
A. Seaholm to Mueller via Manor Road

Manor Road: *Shared-Running*



3. Where Should it Go? How Should it Get There?

B. Downtown to ABIA via East Riverside Drive 8.3-Mile Length, ~25 - 30 minutes



3. Where Should it Go? How Should it Get There?

B. Downtown to ABIA via *East 4th and 7th Streets*

7.6 miles, ~20 - 25 minutes



3. Where Should it Go? How Should it Get There?

B. Downtown to ABIA via *East Riverside Drive*

Advantages of Riverside Corridor



- + Connects more destinations
- + Higher ridership
- + Serves existing populations/neighborhoods
- + No land acquisition required
- + Leverages existing infrastructure

- Trip duration between Downtown and ABIA longer than commuter rail option

3. Where Should it Go? How Should It Get There?

B. Downtown to ABIA via East Riverside Drive

DESTINATIONS:

1. Seaholm
2. CBD
3. Red Line Connection
4. TxDOT Complex
5. Travis Heights
6. Riverside Apartments
7. Tokyo Electron Site
8. Montopolis Area
9. Potential Park+Ride for US 183
10. ABIA



3. Where Should it Go? How Should It Get There?

B. Downtown to ABIA via East Riverside Drive

Catalyst for 1,089 acres of redevelopment
with 520 acres of short
term potential



- Shorter-Term Development Potential
- Longer-Term Development Potential
- Regional Rail Alignments
- Potential Circulator/Streetcar Alignments

3. Where Should it Go? How Should it Get There?

B. Downtown to ABIA via East Riverside Drive

Sufficient ROW for Dedicated Median-Running (West of IH 35)



3. Where Should it Go? How Should it Get There?

B. Downtown to ABIA via East Riverside Drive

Sufficient ROW for Dedicated Median-Running (East of IH 35)



3. Where Should it Go? How Should it Get There?

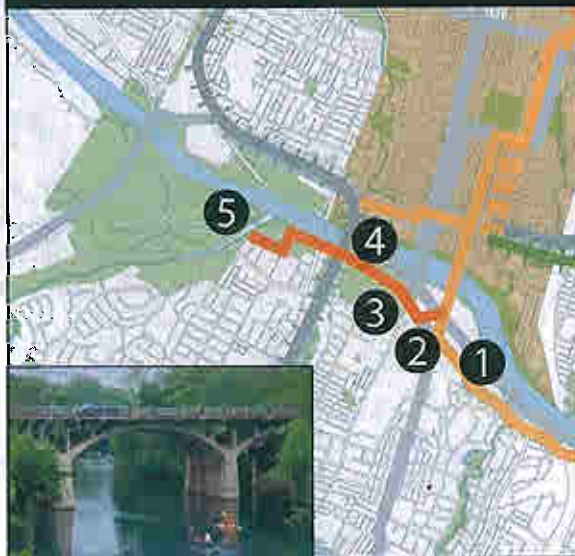
B. Downtown to ABIA via East Riverside Drive

Opportunities for Beautification (East of IH 35)



3. Where Should it Go? How Should it Get There?

C. Downtown to Zilker Park via Riverside Dr. and Toomey Rd. to Barton Creek (1.2 miles)



DESTINATIONS:

1. TxDOT Office Complex
2. Hotels
3. Long Center/ Auditorium Shores
4. Zach Scott Theater
5. Town Lake Trail, Butler Fields, Barton Creek ped bridge

3. Where Should it Go? How Should It Get There?

C. Downtown to Long Center and Zilker Park via Barton Springs Rd. to Stratford Lane / Loop 1 pedestrian bridge (2.0 miles)

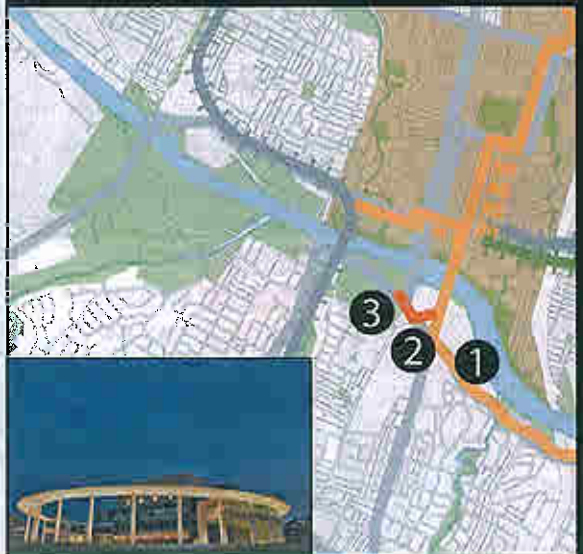


DESTINATIONS:

1. TxDOT Office Complex
2. Hotels
3. Long Center/ Auditorium Shores
4. Barton Springs Road Restaurants
5. Barton Springs Pool, Zilker Gardens, Nature Center, Soccer Fields
6. Town Lake Trail

3. Where Should it Go? How Should It Get There?

C. Downtown to Long Center Via Barton Springs Rd. and E. Riverside Dr. (0.3 miles)



DESTINATIONS:

1. TxDOT Office Complex
2. Hotels
3. Long Center, Auditorium Shores

3. Where Should it Go? How Should it Get There?

EVALUATION CRITERIA 1: CONNECT DESTINATIONS.



• **Regional Transit System:**
*Commuter Lines/Park and Ride
Transit Stations*

• **Downtown** (65,000 jobs)

• **Capitol Complex** (13,000 jobs)

• **UT** (67,000 students/faculty/staff)

• **Mueller** (10,000 jobs/10,000 residents)

• **Airport:** (8 million+ passengers per year)

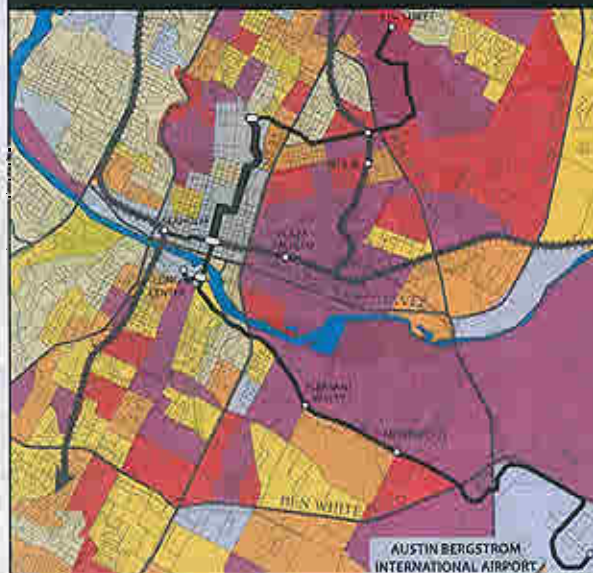
• **Hospitals**

• **Long Center** (200+ events per year)

• **Zilker Park** (ACL, major festivals and events)

3. Where Should it Go? How Should it Get There?

EVALUATION CRITERIA 2: SERVE POPULATIONS AND MAXIMIZE RIDERSHIP.



CONCENTRATION OF LOW-INCOME FAMILIES

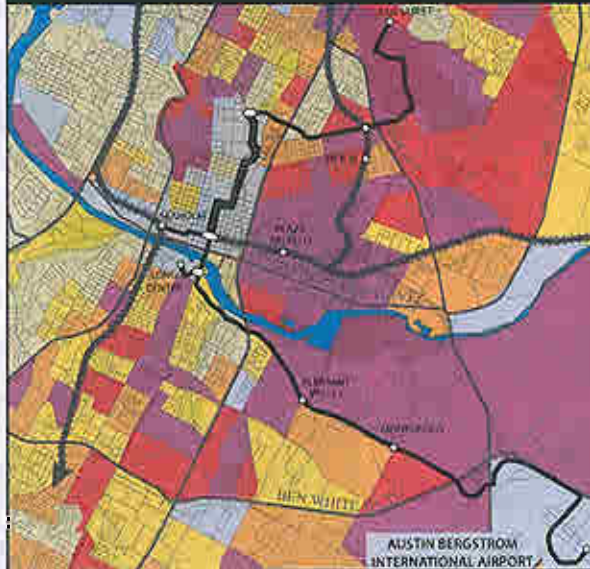
Percentage of Total Families at 50% MFI



SOURCE: CITY OF AUSTIN

3. Where Should it Go? How Should it Get There?

EVALUATION CRITERIA 2: SERVE POPULATIONS AND MAXIMIZE RIDERSHIP.



Estimate of Average Weekday Trips in 2030
(No Zoning Changes Assumed)

ABIA to CBD: 19,100
Seaholm to Mueller: 13,100

Source: Austin Metropolitan Council of Governments

3. Where Should it Go? How Should it Get There?

EVALUATION CRITERIA 3: SUPPORT COMPACT DEVELOPMENT.



- Rail proven catalyst for compact development: Alternative to auto-dependent sprawl.
- Opportunity to redevelop 2,800+ acres of vacant/underutilized sites in DDZ
- Potential to capture increased value (TIF) to offset cost of transit

— Shorter-Term Development Potential
— Longer-Term Development Potential
— Regional Rail Alignments
— Potential Circulator/Streetcar Alignments

AUSTIN BERGSTROM INTERNATIONAL AIRPORT

3. Where Should it Go? How Should it Get There?

EVALUATION CRITERIA 4: BE COST EFFECTIVE.



- Alignment completely located within public ROWs
- No land acquisition required
- No significant reduction in vehicular capacity

4. How Much will this System Cost?



Estimated Capital Cost:

- \$550 to \$614 Million
($\$36\text{ M to } \40 M/mile)
(varies with extent of dedicated trackway)

Estimated Annual Operating and Maintenance Cost:

- \$21 M to \$23 M/year
(~15% reduction due to fare revenue*)
- Assumes 17-hour daily service throughout year, 10-minute headways

*Source: Capital Metro—Q&M only

5. How Could the System be Phased?

An initial phase that provides significant connectivity and the "backbone" for future potential phases:



INCREMENT ONE:

Seaholm to Red Line at Manor Road (4.4 miles)

- Estimated Capital Cost \$192 M to \$231 M (\$43 M to \$52 M/mile)
- Connects CBD, Capitol and UT with Red Line and Future ASA Line
- Includes Maintenance Yard and 6 vehicles

5. How Could the System be Phased?

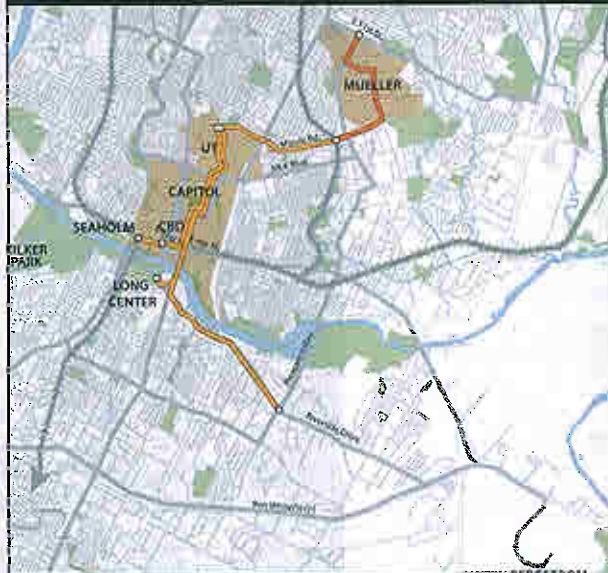


INCREMENT TWO:

CBD to Pleasant Valley and Long Center (3.2 miles)

- Estimated Capital Cost \$133 M to \$147 M (\$41 M to \$46 M/mile)
- Connects Downtown and UT with Riverside housing, Auditorium Shores
- Includes 5 additional rail vehicles

5. How Could the System be Phased?



INCREMENT THREE: *Red Line at Manor Road to Mueller (2.2 Miles)*

- Estimated capital cost
\$68 M to \$78 M
(*\$30 M to \$35 M/mile*)
- Includes 3 additional
rail vehicles

5. How Could the System be Phased?

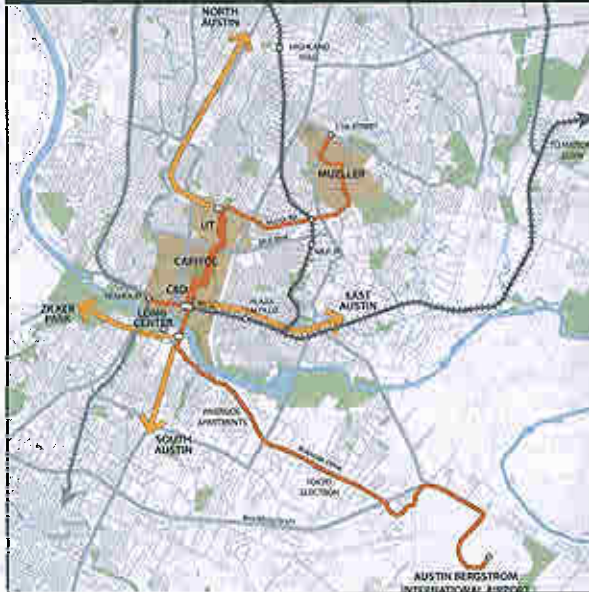


INCREMENT FOUR: *Pleasant Valley to ABIA (5.4 Miles)*

- Estimated capital cost
\$157 M
(*\$29 M/mile*)
- Includes 6 additional
rail vehicles
- Assumes all dedicated-
running rail

5. How Could the System be Phased?

The system also provides the potential for other expansions that could be considered in the future...



...extensions that connect to the Red Line system as it is expanded.

5. How Could the System be Phased?

The system also provides the potential for other expansions that could be considered in the future...



...a system in the spirit of Austin's original streetcar network which radiated from Downtown.



Historic Passenger Rail Network in Austin Metropolitan Area circa 1909

Both intercity and streetcar lines converged on Congress Avenue.

Conclusion: Rail Transit Will Help Realize all Four Foundations outlined in the Downtown Austin Plan.



Physical Form and Place
Sustainability & Mobility
Economic Viability
Affordability & Diversity



Typical Rail Project Development Process

1. **SYSTEMS PLANNING** (0 - 2% project completion)
CAMPO's 2030 Plan
Capital Metro's All Systems Go! Plan
COA's Downtown Urban Rail Connections Plan
1. **CORRIDOR PLANNING** (2 - 10% project completion)
Alternatives Analysis
Environmental Analysis
2. **PROJECT DEFINITION** (10 - 30% project completion)
Preliminary Engineering
3. **FINAL DESIGN** (30 - 100% project completion)

Note: Cost estimates are refined at each phase.

Recommended Next Steps

DIRECT STAFF TO:

1. Seek further public input on consultant's conceptual rail project.
2. Work with Capital Metro to prepare submittal for CAMPO TWG Decision Tree evaluation, including financing plan.
3. Present project submittal to Council for review and approval to forward to CAMPO TWG.

