



# **FasTracks: *Quality of Life Study***

**Conference on Performance Measures for Transportation and Livable  
Communities - Austin, TX - September 7, 2011**



## Quality of Life Study

- Background
- Purpose
- Study Scope
- Reporting
- Example Measures
- Wrap up

# Regional Transportation District (RTD) – Denver



- Regional taxing district operating transit in eight counties
  - Funded by sales & use tax
  - 15-member Board of Directors
  - 2,300 sq. mile service area
- Family of services to meet diverse needs of the region
  - 35 miles of light rail
  - 150 fixed-route bus service





# FasTracks Program



- In 2004, Denver region voters passed a 0.4% tax increase to fund regional transit expansion
- FasTracks Program:
  - 122 miles of new commuter and light rail
  - 18 miles of bus rapid transit (BRT)
  - Over 50 new rail and bus stations
  - Enhanced bus service to facilitate bus/rail transfers across the 8-county district





# Study Background

- In the *2004 FasTracks Plan*, the RTD Board adopted three core goals for FasTracks:
  - Balance transit needs with future regional growth
  - Increase transit mode share during peak travel times
  - Provide improved transportation choices and options
- The Plan also outlined anticipated benefits to the region

***How do we know the FasTracks Program is achieving these goals and providing benefits?***





# QoL Study: What Is It?

- Quality of Life (QoL) Study is a multiyear FasTracks monitoring program with the primary goal of:
  - Objectively tracking and measuring how the region changes as FasTracks is planned, constructed and opened for service
- Secondarily, the Study also serves to fulfill the Before and After Study data requirements for corridors receiving Federal New Starts funding

# Summary of Study Measures



FasTracks Goals	Objective	QUALITY OF LIFE STUDY		
		Indicator	Measure	
Establish a Proactive Plan that Balances Transit Needs with Future Regional Growth	1. Meet Future Transportation Needs	Population Growth	Population Urban Land Consumption Urban Residential Density Corridor Population Density	
		Job Growth & Employment	Annual Change in Employment <b>Direct Job Creation</b> Indirect Job Creation Unemployment Rate Station Area Employment	
		Housing Growth	Housing Starts	
	2. Provide Opportunities for Development Near Transit	Economic Activity	RTD Sales Tax Revenue <b>Taxable Retail Sales</b> <b>New Development</b>	
		Property Value	Apartment Rent Housing Affordability Index Commercial Lease Rates Property Values	
	3. Environmental Sustainability	Sustainable Design	<b>Sustainable Project Features &amp; Actions</b>	
		Air Quality	Vehicle Emissions Number of Air Quality Exceedences	
		Energy Consumption	Transportation Energy Consumption per Capita Excess Fuel Consumed Due to Congestion Fuel Saved Due to New Transit Trips	
	Increase Transit Mode Share at Peak Times	4. Transit Usage	Peak Transit Mode Share	Mode Share
			Ridership	Transit Boardings <b>Annual Transit Boardings per Capita</b> Passenger Demographics New Transit Riders
5. Travel Safety & Security		Accidents	Safety Benefit	
		Crime	<b>Crime Rate on RTD Property</b> Security Resource Inventory	
6. Customer Satisfaction		Passenger Perception	Safety Perception	
		Passenger Satisfaction	<b>Overall Service Rating</b>	



\* High Level measures are shown in **bold**.

# Summary of Study Measures



FasTracks Goals	QUALITY OF LIFE STUDY		
	Objective	Indicator	Measure
Improve Transportation Choices & Options	7. System Mobility	Vehicle Miles Traveled	Vehicle Ownership Transit VMT Impact
		Travel Times	<b>Peak Period Auto &amp; Transit Travel Times</b> <b>Peak Period Auto &amp; Transit Travel Time Variability</b>
Traffic Volumes		Peak Period Freeway Volumes Peak Period Arterial Volumes on Parallel Streets	
Congestion		Extent of Congestion Duration of Congestion	
User Cost Savings		Motorist Congestion Cost Savings Transit Riders Cost Savings	
Transit Access		Access & Egress Mode Population within Walking Distance Employment within Walking Distance	
Auto Access		<b>park-n-Ride Capacity &amp; Utilization</b> park-n-Ride License Plate Survey	
8. Travel Choices & Accessibility	Bike Access	Bicycle Parking Inventory Bike-on-Bus Usage Station Bicycle Access	
	Pedestrian Access	Station Pedestrian Access	
	Destination Access	<b>Percent of Regional Destinations served by High-Frequency Transit</b>	
	Household Access	Population Served by High-Frequency Transit	
	Job Access	Employment Served by High-Frequency Transit	
	Land Use	Transit Supportive Density Changes	
	Transit Service	Miles of Rapid Transit Facilities Revenue Hours of ADA Service Transit Revenue Hours	



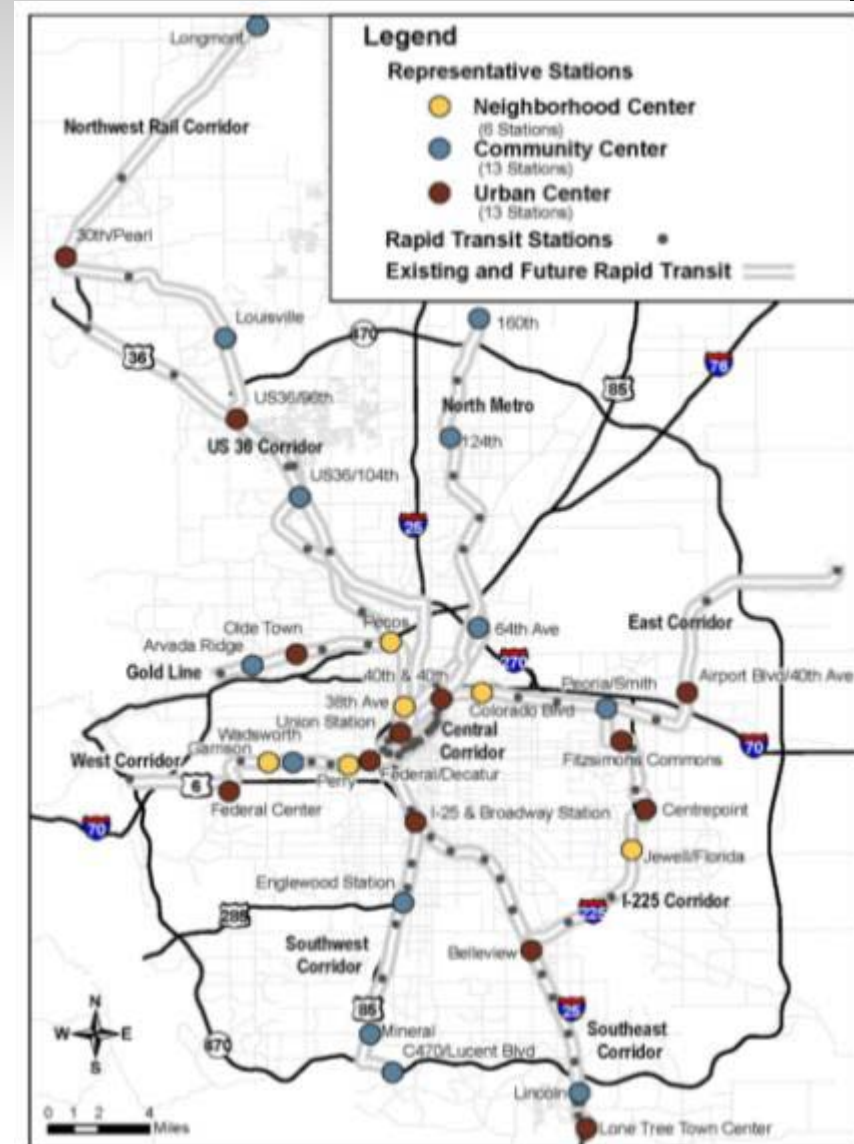
\* High Level measures are shown in **bold**.



# Study Scope



- Study measures the effects of the FasTracks Program at three geographic levels:
  - Region
  - Rapid transit corridors
  - Rapid transit station areas
- Only “representative stations” used for station area data collection



# Reporting



- Detailed Reports
  - 2006: First report established a baseline of data for full set of 70+ measures
  - Detailed reports issued every 3 to 5 years
- High Level Measures reports
  - Issued annually between detailed reports
  - Provides updates on a subset of 10-11 measures



February 2008





# Example Measures

# System Mobility



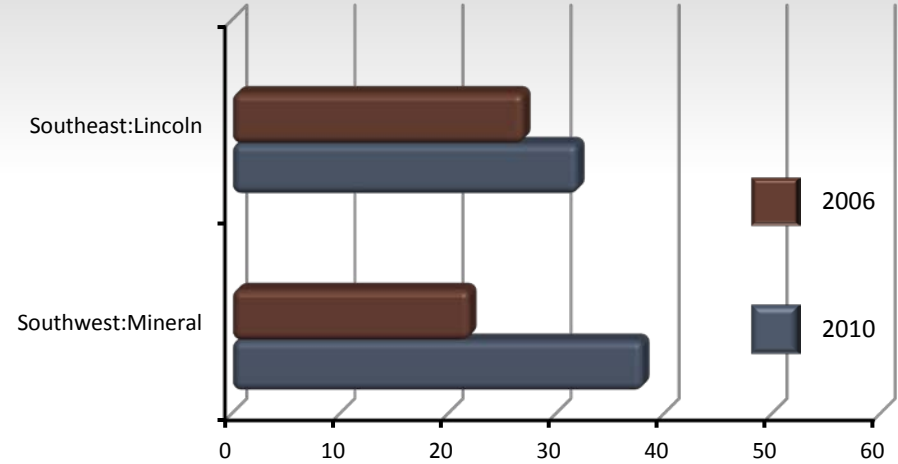
## Corridor Travel Times

- Travel time to reach downtown Denver during the AM peak period
- Automobile travel time increased while transit travel time decreased on both corridors
- Southeast Corridor light rail improved transit travel in the southern I-25 corridor by reducing travel time by 15 minutes

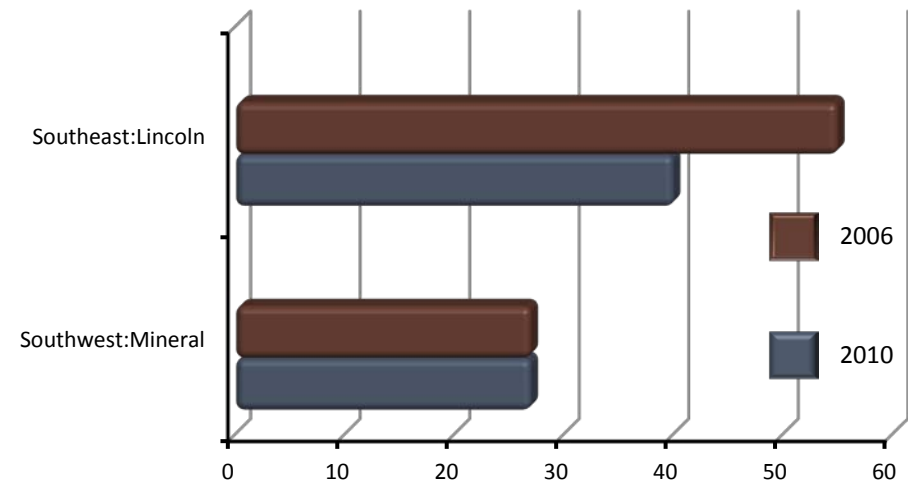


## Travel Times

AM Peak Automobile Travel Times to Downtown Denver



AM Peak Transit Travel Times to Downtown Denver



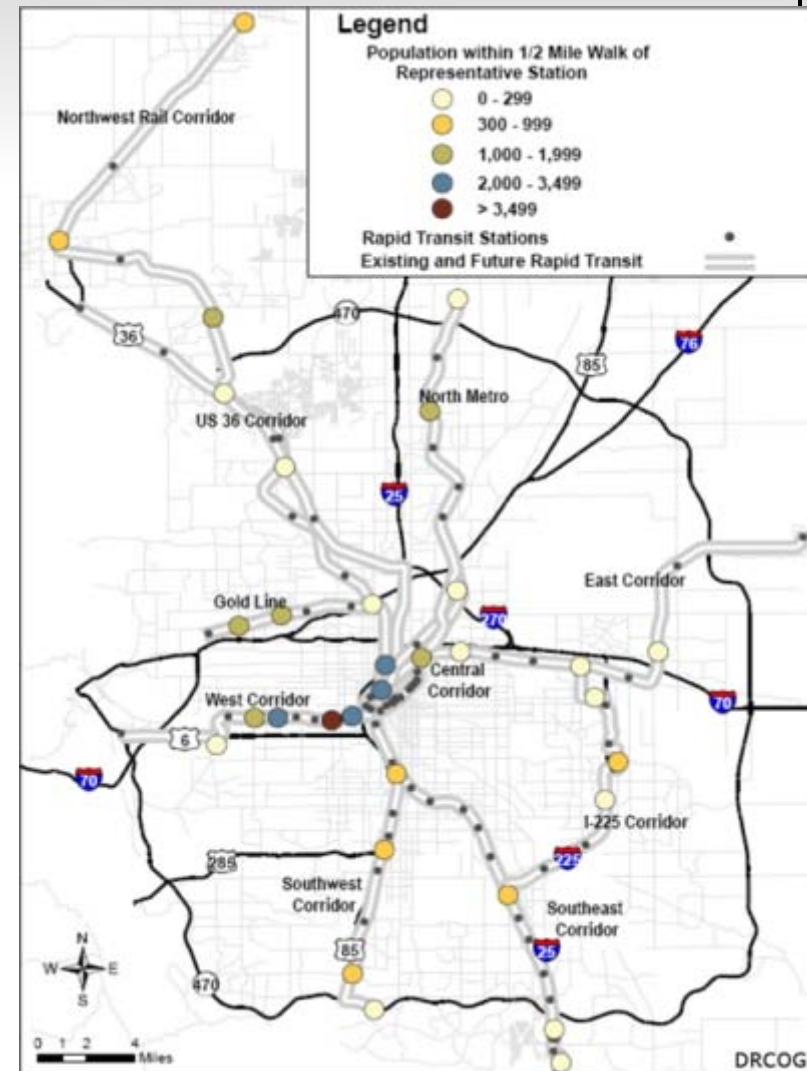
# Travel Choices & Accessibility



## Transit Access

## Population within Walking Distance of Representative Stations

- Half mile walkshed used versus half mile radius
- Walkable streets include all roadways except limited access freeways



½ mile walkshed at Belleview Station





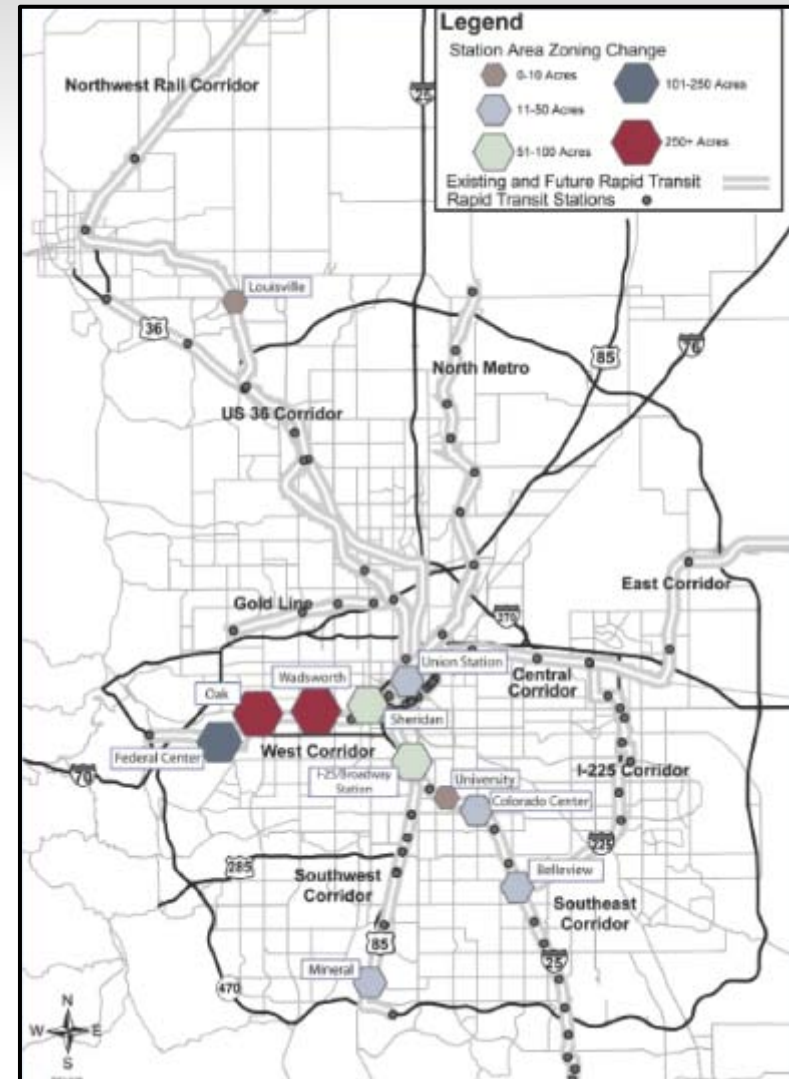
# Travel Choices & Accessibility



## Land Use

### Transit-Supportive Zoning Changes

- Zoning changes around existing and future rapid transit station areas that increase densities & encourage mixed use development
- 10 stations had zoning changes in 2006 & 2007
- Louisville station zoning changed in 2008
- No transit-supportive zoning changes in 2009



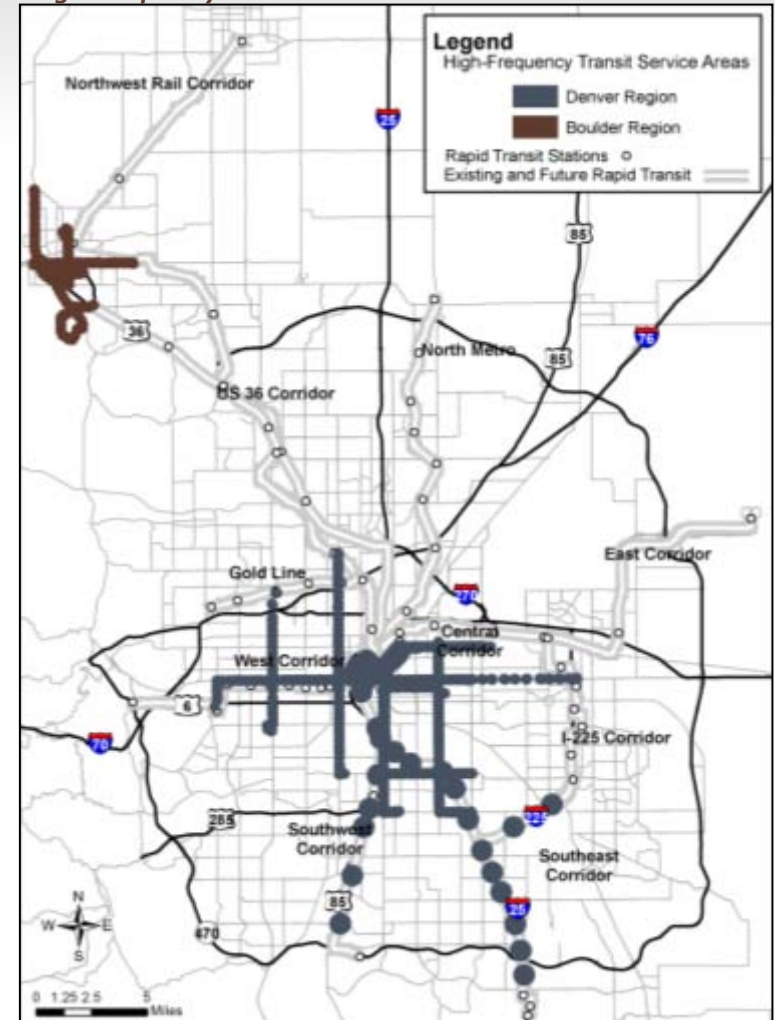
# Travel Choices & Accessibility



## Regional Destinations Served by High-Frequency Transit

### Destination Access

#### High-Frequency Service Area



- High-frequency transit service area
  - ½ mile radius of rail stations
  - ¼ mile radius of bus stops with 15-minute or better peak & off-peak headways
- 30% of Denver's regional destinations are served by high-frequency transit
  - 25% prior to opening of Southeast Corridor light rail



# Challenges & Opportunities



- New data sources and methodologies
  - Decide when to change or remain consistent
- Objectivity
  - Correlation not causation
- Transferrable
  - Uses mostly existing data
  - Simple methodologies



# Questions

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