



# System Planning for Quality Transit Systems



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**Procedures and Technical Methods for Transit Project Planning**

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## Procedures and Technical Methods for Transit Project Planning

### Foreword

### Part I: The Major Capital Investment Planning Process

1. Introduction to Major Investment Planning
2. Systems Planning\*
3. Framework for Alternatives Analysis

### Part II: Conduct of the Analysis

1. Organization and Management\*
2. Definition of Alternatives
3. Estimation of Capital Costs\*
4. Operating and Maintenance Costs\*
5. Methods for Travel Forecasting\*
6. Interpretation and Use of Travel Forecast Data\*
7. Estimation of Socio-Economic and Environmental Impacts\*
8. Financial Planning for Transit
9. Evaluation of Alternatives

### Part III: The Decisionmaking Process

1. The Draft Environmental Impact Statement\*

\* Note: Chapters marked with an asterisk (\*) are unavailable in electronic format; however select the links above to send an email requesting a printed copy via US Postal Service.




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# Objective of Guidelines



*To improve the quality of transit investment proposals by strengthening the technical, programmatic, and policy work conducted through metropolitan planning.*





# System Planning



- Complements metro transportation planning
  - Regional in scale
  - Multimodal
  - Technical Focus
  - Institutional Focus
    - MPO, transit authority, planning partners
- 

*Problems discovered in transit project development tend to be rooted in failures during metropolitan planning to:*

- 1. Establish Regional Context for Transportation Needs**
- 2. Establish Regional Policy Framework for Land Use**
- 3. Promote Effective Practice in Travel Forecasting**
- 4. Early Consideration of Environmental Issues**
- 5. Establish Regional Context for Financial Planning**



# Critical Element # 1: Regional Needs Assessment



- Policy Goals and Objectives
  - Technical Analysis
  - Potential Solutions
- 

# Critical Element #2: Land Use

## *Characteristics of Transit-Supportive Land Use:*

- *High Density; compact development patterns*
- *Mixed Use*
- *Street Connectivity with Sidewalks*
- *Constrained Parking Supply*



# Land Use: Regional Framework




- Technical Analysis and Forecasting
  - Building Inter-Jurisdictional Cooperation and Support
  - Regional Policies, Programs, and Incentives
- 





# Critical Element # 3: Technical Analysis and Forecasting



- Integration of project- and system-level planning
  - Transparency
  - Data Quality: current household/on-board surveys
  - Validation
- 



## Critical Element #4: Early Consideration of Environmental Issues

- Identify critical concerns and issues that could affect the implementation of transportation improvements
  - Advance assembly of important environmental resource information
  - Monitoring and analysis
-

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## Critical Element #5: Financial Planning

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*Project-level financial plan should be integrated with 20-year system plan*

- Inter-agency coordination across modes
  - Cooperative revenue forecasting
  - Risk analysis
-

# REGION 2040

Decisions for Tomorrow

## 2040 Growth Concept

The Region 2040 Growth Concept was adopted on December 14, 1999 in Ordinance No. 85-623 A and amended in the following:

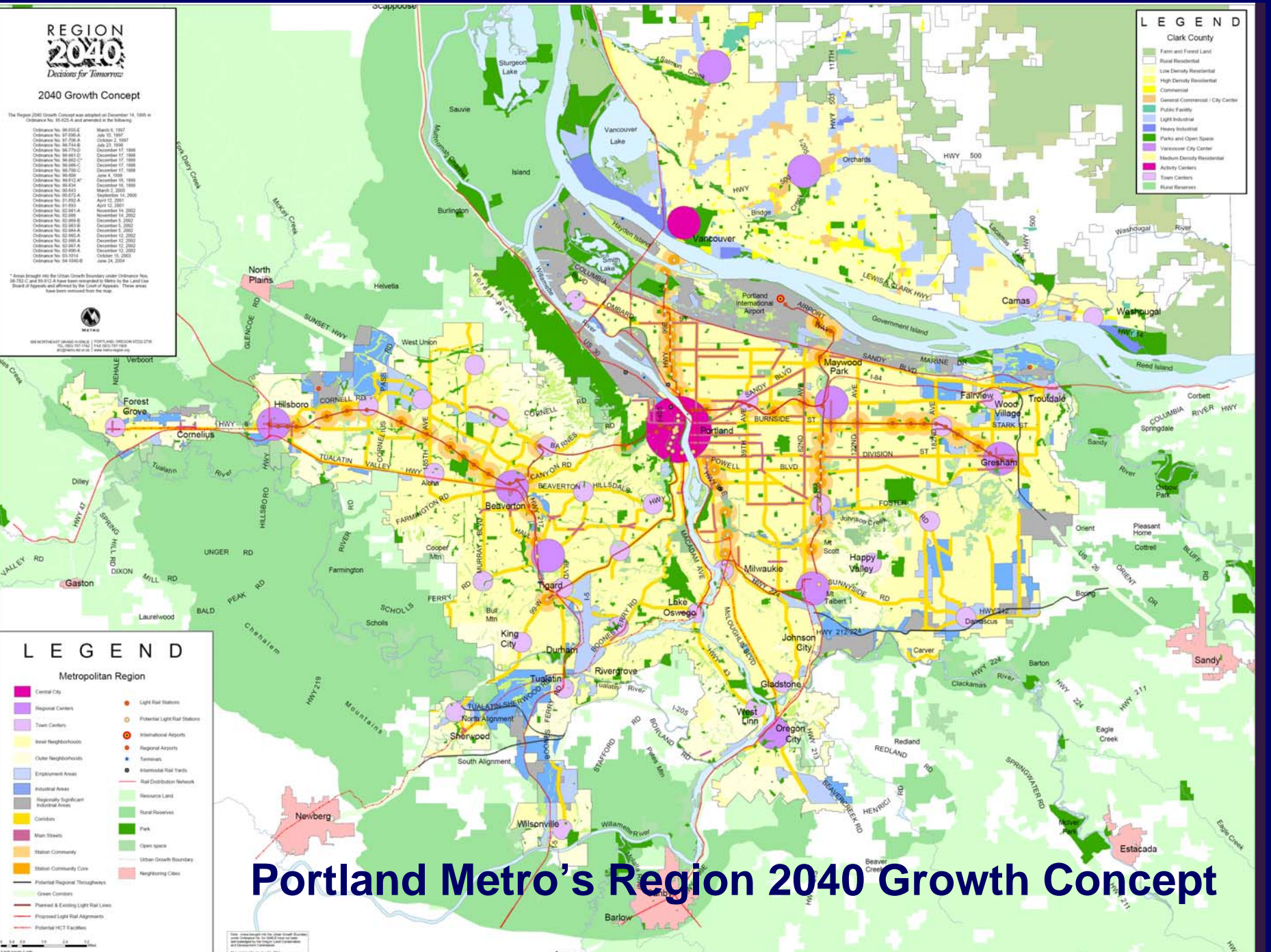
- |                        |                   |
|------------------------|-------------------|
| Ordinance No. 85-623 A | December 14, 1999 |
| Ordinance No. 87-306 A | June 30, 1997     |
| Ordinance No. 87-306 A | October 2, 1997   |
| Ordinance No. 88-716 B | October 17, 1998  |
| Ordinance No. 88-716 C | October 17, 1998  |
| Ordinance No. 88-861 C | December 17, 1998 |
| Ordinance No. 88-861 D | December 17, 1998 |
| Ordinance No. 88-861 E | December 17, 1998 |
| Ordinance No. 88-861 F | December 17, 1998 |
| Ordinance No. 88-861 G | December 17, 1998 |
| Ordinance No. 88-861 H | December 17, 1998 |
| Ordinance No. 88-861 I | December 17, 1998 |
| Ordinance No. 88-861 J | December 17, 1998 |
| Ordinance No. 88-861 K | December 17, 1998 |
| Ordinance No. 88-861 L | December 17, 1998 |
| Ordinance No. 88-861 M | December 17, 1998 |
| Ordinance No. 88-861 N | December 17, 1998 |
| Ordinance No. 88-861 O | December 17, 1998 |
| Ordinance No. 88-861 P | December 17, 1998 |
| Ordinance No. 88-861 Q | December 17, 1998 |
| Ordinance No. 88-861 R | December 17, 1998 |
| Ordinance No. 88-861 S | December 17, 1998 |
| Ordinance No. 88-861 T | December 17, 1998 |
| Ordinance No. 88-861 U | December 17, 1998 |
| Ordinance No. 88-861 V | December 17, 1998 |
| Ordinance No. 88-861 W | December 17, 1998 |
| Ordinance No. 88-861 X | December 17, 1998 |
| Ordinance No. 88-861 Y | December 17, 1998 |
| Ordinance No. 88-861 Z | December 17, 1998 |

\* Areas brought into the Urban Growth Boundary under Ordinance No. 88-782 C and 88-812 A have been removed from this map and the Board of Approvals and affirmed by the Court of Appeals. These areas have been removed from this map.

NORTHWEST ORANGE COUNTY | PORTLAND, OREGON 97208  
 503.281.1234 | www.portlandmetro.gov  
 PROJECT NUMBER: 2040-01

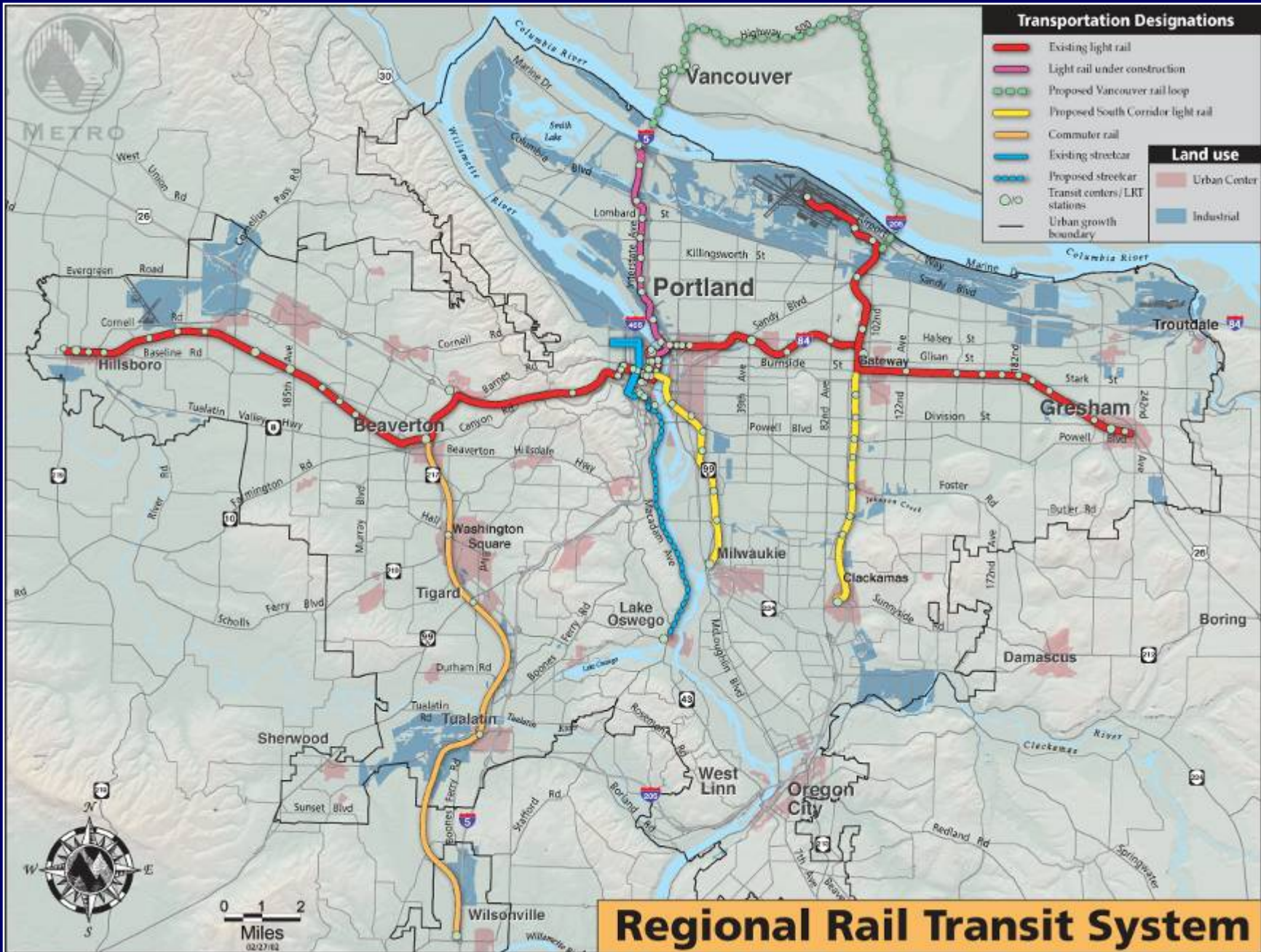
- ### LEGEND
- Clark County
- Farm and Forest Land
  - Rural Residential
  - Low Density Residential
  - High Density Residential
  - Commercial
  - General Commercial / City Center
  - Public Facility
  - Light Industrial
  - Heavy Industrial
  - Parks and Open Space
  - Vancouver City Center
  - Medium Density Residential
  - Activity Centers
  - Town Centers
  - Rural Reserves

- ### LEGEND
- Metropolitan Region
- Central City
  - Regional Centers
  - Town Centers
  - In-ear Neighborhoods
  - Outer Neighborhoods
  - Employment Areas
  - Industrial Areas
  - Regionally Significant Industrial Areas
  - Corridors
  - Main Stems
  - Station Community
  - Station Community Core
  - Potential Regional Thoroughfares
  - Green Corridors
  - Planned & Existing Light Rail Lines
  - Proposed Light Rail Alignments
  - Potential MCT Facilities
  - Light Rail Stations
  - Potential Light Rail Stations
  - International Airports
  - Regional Airports
  - Terminals
  - Intermediate Rail Yards
  - Rail Distribution Network
  - Resource Land
  - Rural Reserves
  - Corridors
  - Main Stems
  - Station Community
  - Station Community Core
  - Potential Regional Thoroughfares
  - Green Corridors
  - Planned & Existing Light Rail Lines
  - Proposed Light Rail Alignments
  - Potential MCT Facilities
  - Neighboring Cities



# Portland Metro's Region 2040 Growth Concept





METRO



0 1 2 Miles  
02/27/12

# Regional Rail Transit System

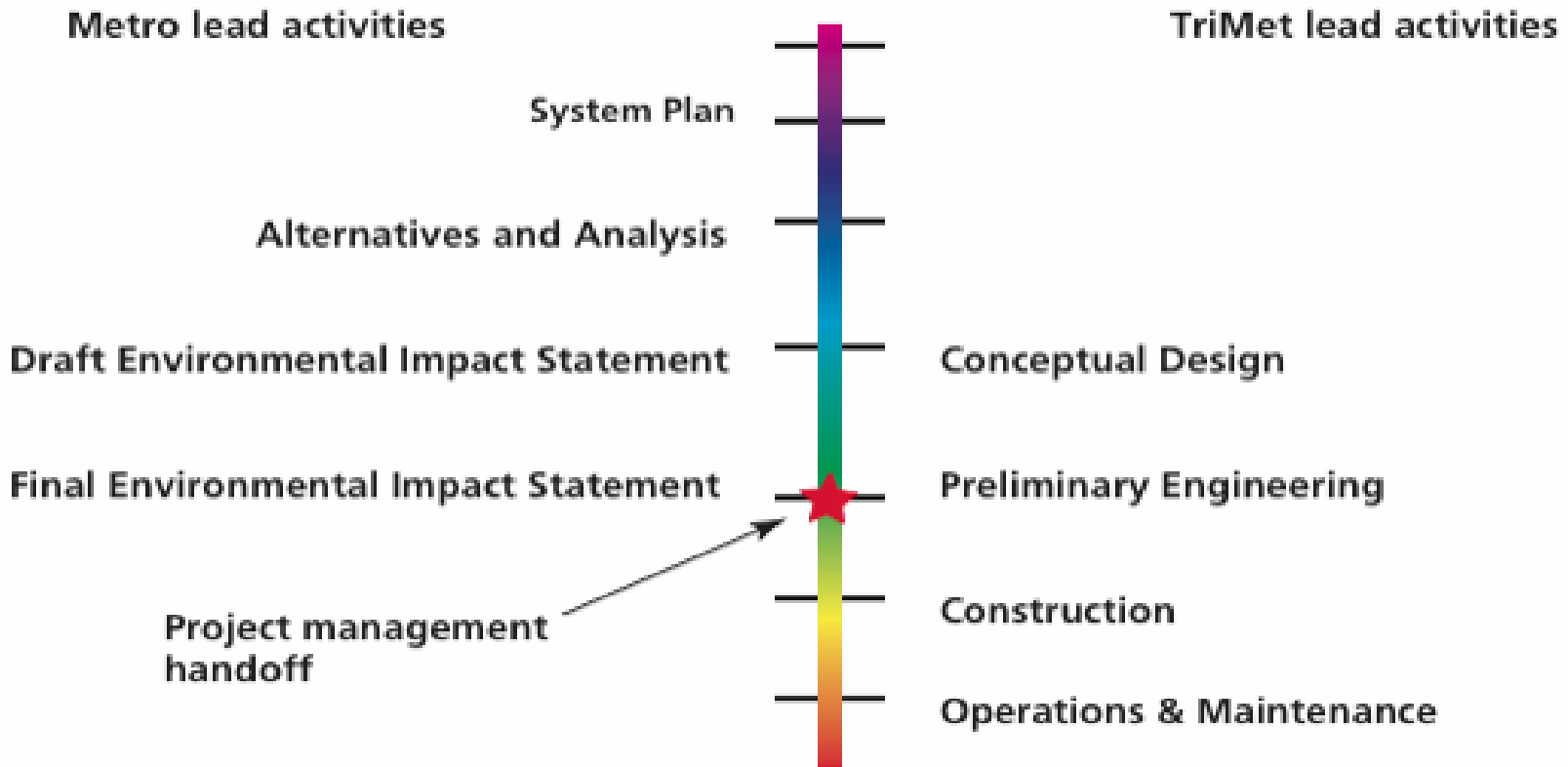
# TriMet and Metro



- ◆ Work closely at all levels of development
- ◆ Metro leads corridor planning phase
- ◆ Metro selects the preferred alternative
- ◆ TriMet designs, builds and operates

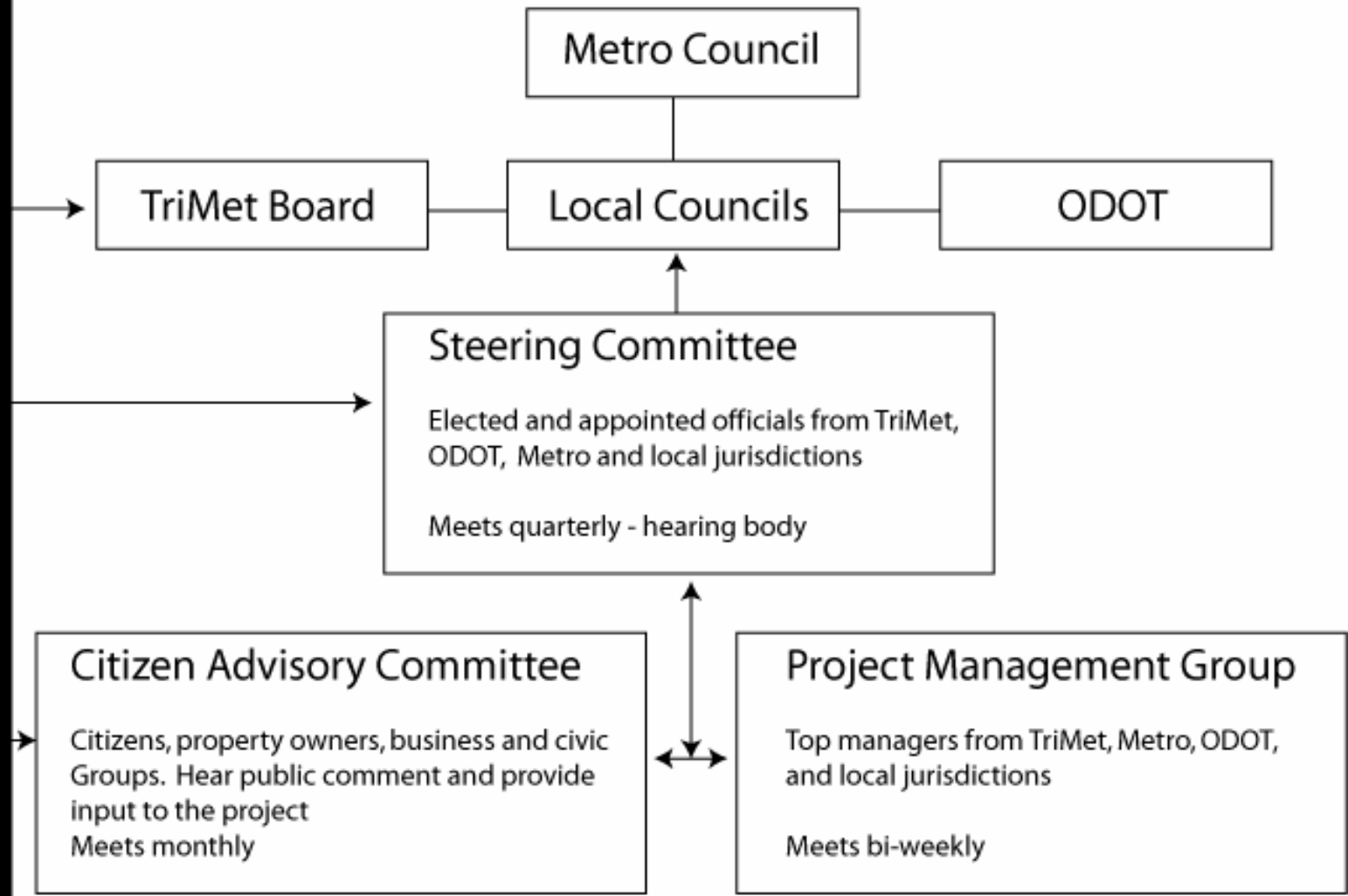
# Portland Regional Transportation Planning Responsibilities

## Typical Project Responsibilities



# PUBLIC INVOLVEMENT

## Portland's Decision Making Structure

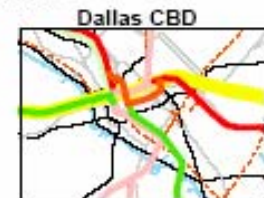




# Mobility 2025: The Metropolitan Transportation Plan, Amended April 2005

## Rail System Legend

-  Future Light Rail
-  Existing Light Rail
-  Future Regional Rail
-  Existing Regional Rail
-  Future Rail
-  Existing Rail
-  Special Events
-  Future Intercity Rail
-  Existing Intercity Rail
-  North Crosstown Corridor Study\*
-  Possible Eastern Terminus
-  Existing Rail Corridors



Corridor specific design and operation characteristics for the Rail System will be determined through ongoing project development.

New facility locations indicate transportation needs and do not represent specific alignments.

All existing railroad rights-of-way should be monitored for potential future transportation corridors.

Refined rail forecasts are necessary to determine technology and alignment in Future Rail corridors.

Institutional structure being reviewed for the region.

The need for additional rail capacity within the Dallas CBD, Fort Worth CBD, DFW International Airport, and other intermodal centers will be monitored.

### \*NORTH CROSSTOWN CORRIDOR STUDY AREA

- At a minimum, evaluate the engineering feasibility and environmental implications of:
- rail along the KCS line and the Burlington Northern line, including the feasibility of an alternative connection along S.H. 190;
  - rail along the full Cotton Belt Corridor, from Parker Road to DFW Airport; and
  - rail along the Cotton Belt Corridor from DFW Airport with an eastern transition to light rail along LBJ Freeway at an Addison Intermodal Center.



North Central Texas  
Council of Governments  
Transportation



As Amended: April 14, 2005



FIGURE 6-1  
2030 Transit System Plan

- Light Rail Blue Line & Station (Existing)
- Light Rail Red Line & Station (Existing)
- Trinity Railway Express (TRE) Commuter Rail & Station (Existing)
- Light Rail Orange Line & Station (Committed)
- Light Rail Green Line & Station (Committed)

**2030 Rail**

- Express Rail
- Rapid Rail

**2030 Bus**

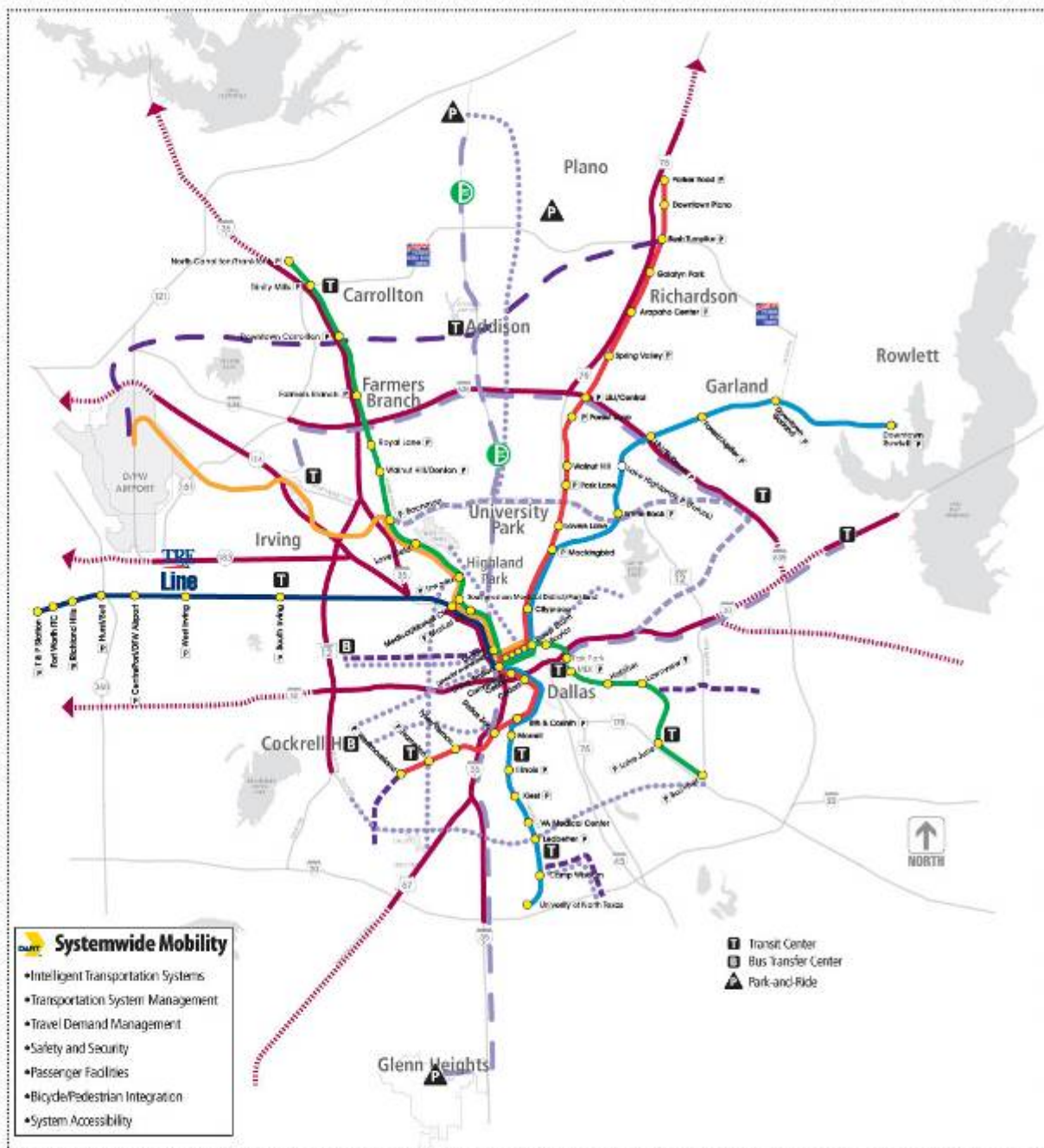
- Express Bus
- Enhanced Bus
- Rapid Bus

**2030 Managed HOV Lanes**

- DART Participation
- No DART Participation

**2030 Paratransit** (service provided systemwide)

**2030 Systemwide Mobility**



- Systemwide Mobility**
- Intelligent Transportation Systems
  - Transportation System Management
  - Travel Demand Management
  - Safety and Security
  - Passenger Facilities
  - Bicycle/Pedestrian Integration
  - System Accessibility

For more information,  
comments, suggestions:

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