

Champaign Urbana Mass Transit District Fixed-Guideway Study



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What is a "Fixed-Guideway" ?

- ✓ Transit vehicle operating on a fixed guidance system.
e.g. Rail or track
- ✓ Established route which is unlikely to change.
- ✓ More efficiency in operation. Higher capacity.
- ✓ Direct entry, platforms, shorter dwell times.
- ✓ Trams, Trolley, Streetcar

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Why consider a "Fixed-Guideway" ?

- ✓ Increase and enhance the capacity of the transportation system
- ✓ Promote economic development & reinvestment in downtown
- ✓ Enhance the quality of the ride and air quality
- ✓ Improve quality of life for all citizens (whether they ride or not)
- ✓ Set our community, and the University apart from others

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What are we talking about ?

Trolley

Streetcar

Bus Rapid
Transit

Rubber Tire
Transit

Lightrail

Tram

Fixed Guideway

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What we are NOT talking about.....



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What we ARE talking about.....



Phileas



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Implications for Community

Public Transit

- Stimulates Economic Development

Net return on investment is 6 to 1 (Source Cambridge Systematics)

- Saves Money

Costs to operate car = \$5,000 - \$10,000 per year

Cost to ride transit = \$200 - \$2,000 per year

- Creates Jobs / Access to Jobs

- Eases Traffic Congestion

- Fosters More Livable Communities

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➤ Boosts Real Estate Values

Portland Oregon – 40% higher one block from Streetcar

Dallas, Texas – 25% higher on light rail line

➤ Improves Air Quality

Buses emit 80% less CO than single-occupant vehicles

Rail emits almost no CO

➤ Reduces Energy Consumption

Transit reduces auto-fuel consumption by 1.5 billion gallons annually

➤ Ensures Safety

Transit bus 91 times safer than car

Train 15 times safer

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MTD Background and Context

- 9,500,000 riders per year
- 33,000 riders per weekday in the core
- 14,000 riders per weekday on 13 city routes – year round
- Riders growing 2% per year for both city and campus from mid-90's
- Regional population and employment growing slowly / stable
- New residence / job locations towards north and southwest
- Revitalization of downtowns an important goal



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MTD Alternative Analysis Study – Project Goals

1. Meet Champaign-Urbana – UI Improvement Goals

Maintain / Increase jobs and residences around existing centers

Attractive, modern, high-quality transit amenities & service

Reduce traffic conflicts and safety hazards

2. Increase Transit Usage

More transit riders

Higher transit share of work trips

3. Improve MTD Cost Efficiency and Effectiveness

More passengers per service hour

Increase Federal and user contribution to costs

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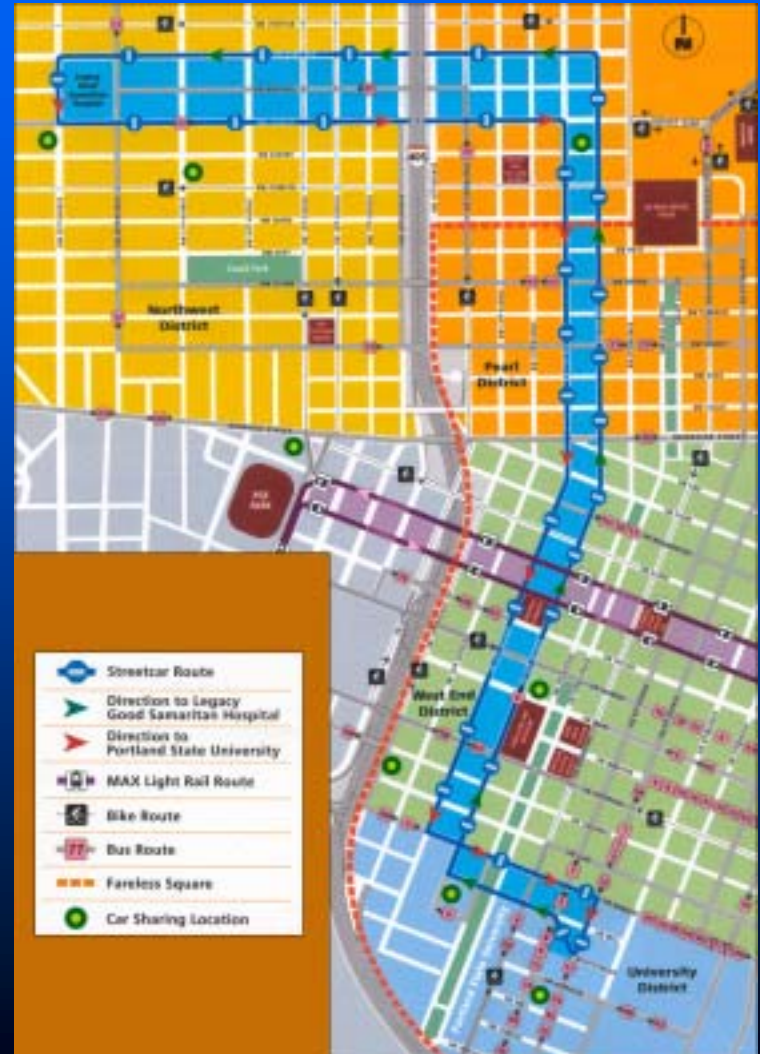
Portland, Oregon - Streetcar



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Portland's Goals

- ✓ Link neighborhoods with a convenient and attractive transportation alternative. Fit the scale and traffic patterns of existing neighborhoods
- ✓ Provide quality service to attract new transit ridership
- ✓ Reduce short inner-city auto trips, parking demand, traffic congestion and air pollution
- ✓ Encourage development of more housing in the Central City, particularly in undeveloped areas like the River District



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System Characteristics

Currently 2.4 miles of track

Links Downtown, University, Hospital

1,350,000 riders 1st year / exceeded
projections by 150,000

Rail in street / overhead electric

Streetcar / autos shares travel lane

Cars and stops have sponsors

Minimal infrastructure improvements

Majority of funding with parking fee increase



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Portland Redevelopment

Major goal of project

Permanence of track critical for
development

Zoning Incentives / Requirements

density minimums

parking maximums

40% higher property values one block
from track



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Portland Redevelopment



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European Examples

Caen, France

Orleans, France

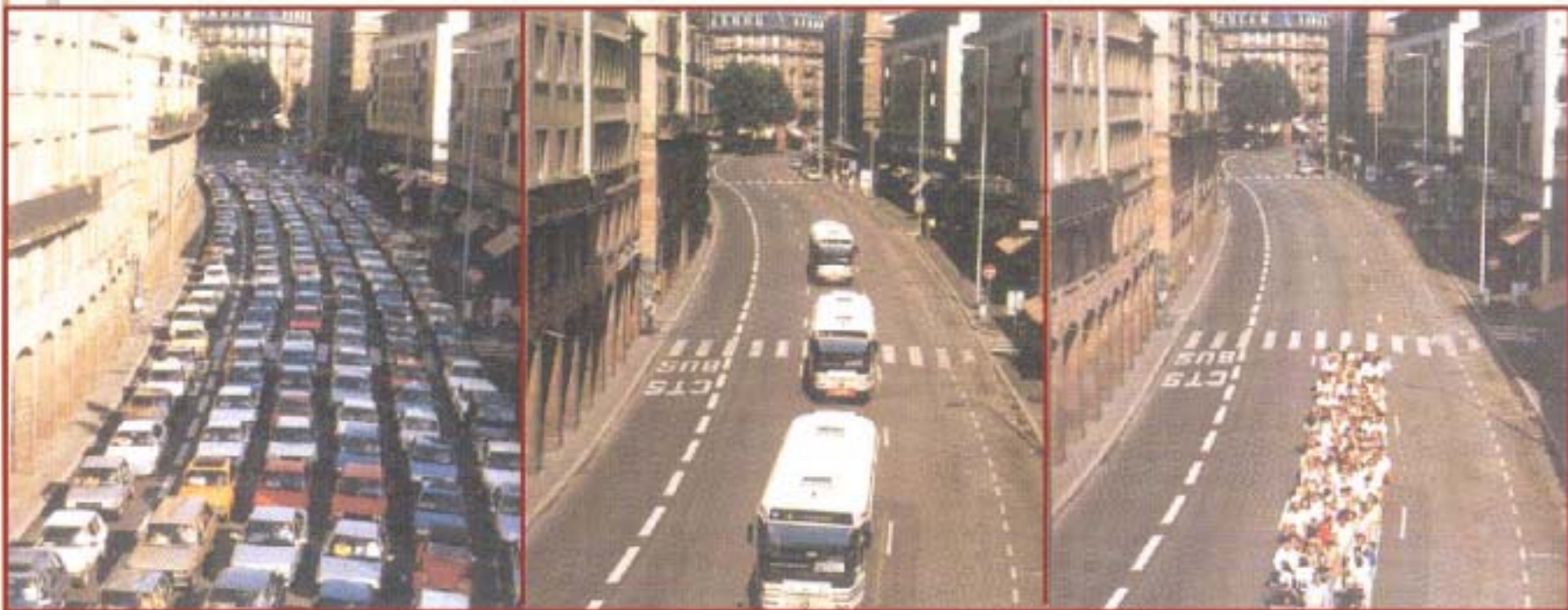
Strasbourg, France

Manufacturers

Lohr Industries (Translohr) –
Strasbourg

APTS (Philiass) – Eindhoven,
Netherlands





160 cars = 3 bus = 1 Translohr STE4

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Caen, France - Tram



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Caen, France

Approx. 200,000 people

Major University – 36,000

Project start 1994

Project Implemented 2002

(Construction 2 years)

Exclusive lanes for tram

Tram line with one spur

Street widened but auto lanes quantity and size reduced



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Rubber tire guidance with single track

Overhead electric

9.75 miles of track with 34 stations

3.5 minute frequency Front / back end

Vehicle could work as bus or tram

Approx. 180 riders / tram

Derailment problems



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Orleans, France - Tram



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Orleans, France

Approx. 117,000 people in city

Orleans University & Research Center

11 mile system / one line / 24 stops

Serves Downtown and Suburbs



Tram serves 21% of residents; 29% workforce;

70% school / university students

Project Started 1992 / Implemented 2000

Construction took 2 years

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Goal to recapture city center

Source of Community Pride

Steel on Steel Rail

Overhead electric

Dedicated lanes / some on grass

Bi-directional

6 new Park and Ride lots / 900 cars

Added thousands of trees / shrubs







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Strasbourg, France



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Strasbourg, France

Approx. 430,000 people

Auto Congested City Center

Steel Rail System

Heart of city center closed to autos

Highly efficient system – quick

Quicker loading / unloading





Strasbourg, rue des Francs Bourgeois



Strasbourg, rue des Francs Bourgeois



TRANSLOHR

L'esprit de liberté.



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The Phileas – Bus Rapid Transit



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The Phileas

Magnet positioning and guidance system

Route known by vehicle

Minimal operator effort

All wheel steering

Runs on battery and engine





01/13/200

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18m



24m



25.5m



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The Phileas - Impressions

Not enough difference from current bus technology to encourage new riders.

Observed potential problems in the design of the vehicle.

Have concern about how technology would work in our climate.

No sense of permanent route

Reduced economic development potential

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Lohr Industries – Translohr



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Translohr

New product

Tire vehicle on single guidance track

Overhead electric

Need smooth roads

Light weight – energy efficient

Bi-directional

Can run off of overhead

for sensitive areas





DU GUIDAGE TRANSLOHR

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Accessibility

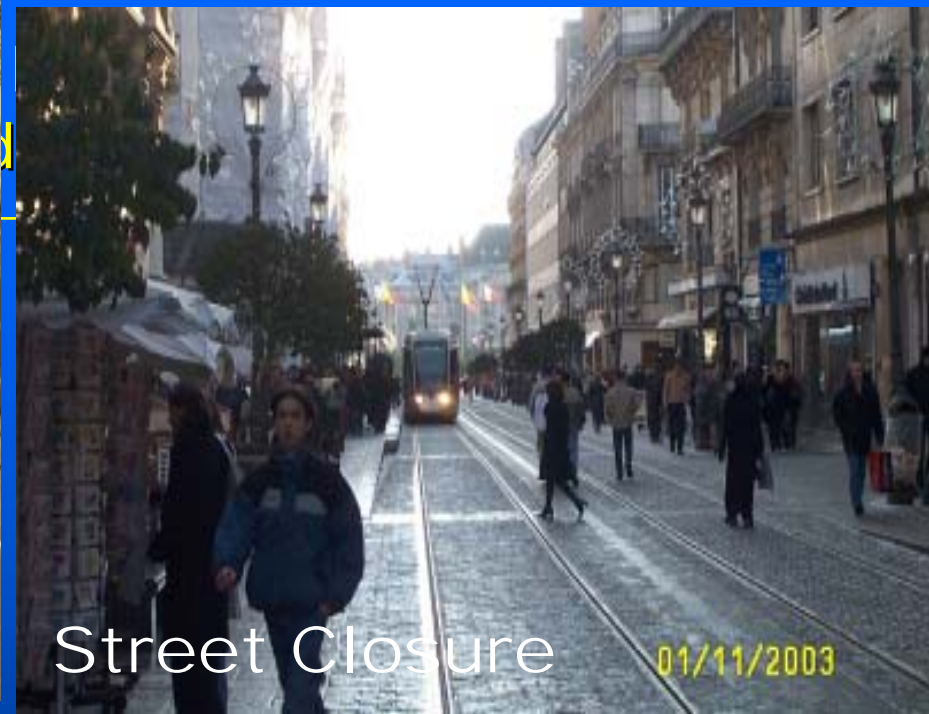
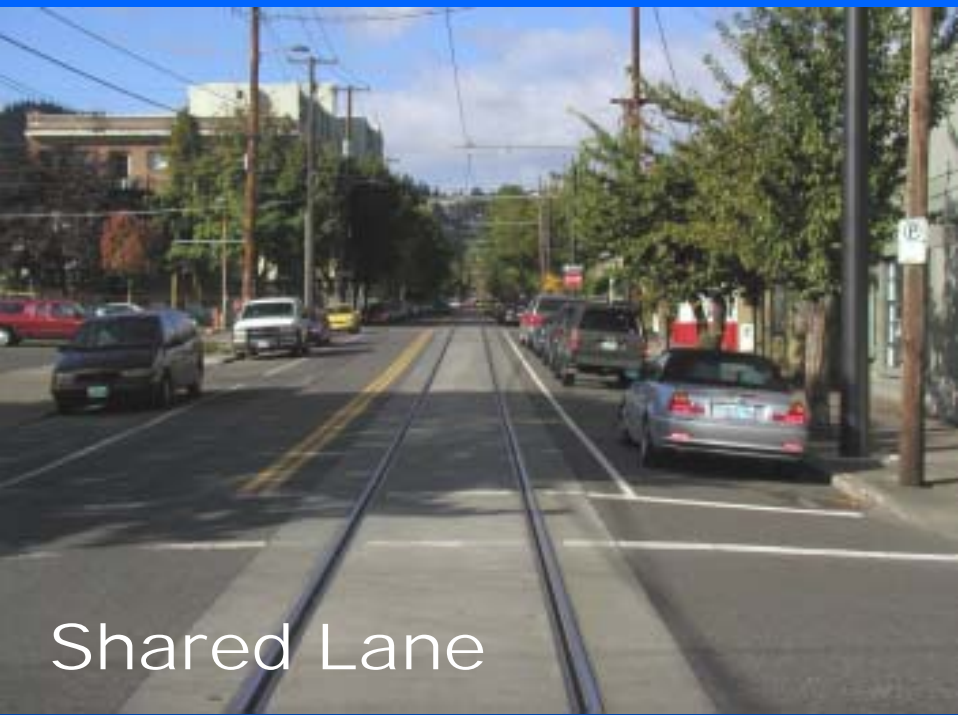
Zero step

Spacious

Easy mobility in trams

Self sufficient – no wait for operator assistance





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Downtown Plan Goals

- Increase Vitality / Entertainment
- Build housing
- Enhance neighborhoods adjacent to downtown
- Capture student markets
- Reduce auto-oriented development
- Consider tram / trolley concept







FIGURE 29:

"NEAR NORTH" REDEVELOPMENT (Broadway looking South)

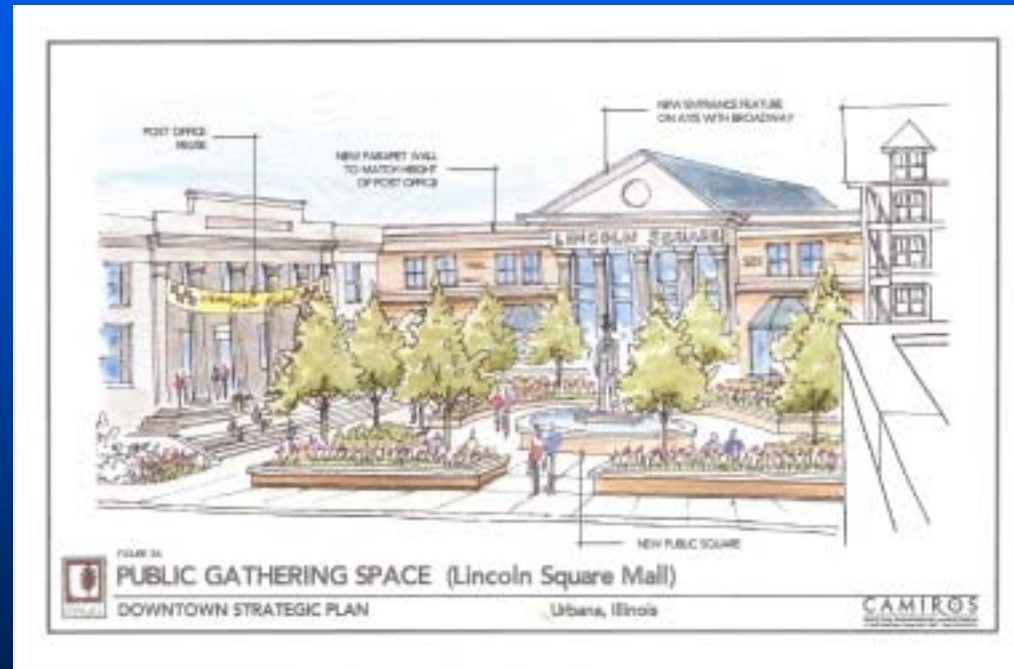
DOWNTOWN STRATEGIC PLAN

Urbana, Illinois

CAMIROS
 Planning, Design, Construction Management, and Urban Architecture
 2112 First Street, Urbana, IL 62501



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What could be realized.....

- ✓ Providing another transportation alternative to the community
- ✓ Attract more professionals desiring to live in an urban environment
- ✓ Help to prevent sprawl. Promote Smart growth
- ✓ Opportunity for community scaled businesses to thrive and grow
- ✓ Diversity of business opportunity cultivated
- ✓ Provide cutting edge amenity for community
- ✓ Offer more accessible transportation offering greater self-sufficiency