

Wider benefits of public transport: an evolving concept with evolving uses

Glen Weisbrod
Economic Development Research Group, USA
www.edrgroup.com

Thredbo Conference on Competition and
Ownership in Land Passenger Transport

September 2015

Agenda

1. In the beginning... the benefits of transport
2. The origins and evolution of cost benefit analysis
3. Redefining the concept of “wider” benefits
4. Application, uses and issues to be resolved

(1) In the beginning...

***Evolving motivations
(and hence benefits)
of passenger transport***

Looking back...

motivations for passenger transport

Private operators

2000 BC: Mesopotamia
- caravans for trade



1500 BC: Egypt - Nile tourism
“booze cruise”



600 BC: Greece - carts for visits
to the countryside



1630: Boston – chartered urban
ferry service, enabling city growth



Looking back...

motivations for scheduled services

Private operators

1662: Paris - public omnibus to enable urban movement



1890's electric underground to relieve surface congestion



1850's "rapid transit" concept



Boston Tremont Street



Looking back... *motivations for scheduled services*

1850-1920 enabling urban centers to develop, bringing workers to jobs



Sorber, J. W. Leonard, The industries of St. Louis, 1887 (Westliche Post building* by Wittenberg)



Pittsburgh



Copyright 1906 by the Rotograph Co.
10862 Main Entrance.

The Florida Ostrich Farm, Jacksonville.



Streetcar to Bates Rubber Company, Denver's Street Railways

Looking back... Development of “streetcar suburbs”

(1850-1920) streetcars sponsored by developers, enable middle class suburbs in N. America

THE SUNDAY OREGONIAN, PORTLAND, JUNE 26, 1906.

\$10 STARTS YOU ON ROAD TO PROSPERITY IN HYDE PARK

NO INTEREST TAXES TO PAY

HYDE PARK

Prosperity follows the Street Car Line

Whether you buy Real Estate for investment or to build a home, the popular location is **HYDE PARK**

Fill Out and Mail This Coupon

THE JACOBS-STONE COMPANY
1215 1/2 1ST ST.
PORTLAND, ORE.

Fill Out and Mail This One Too

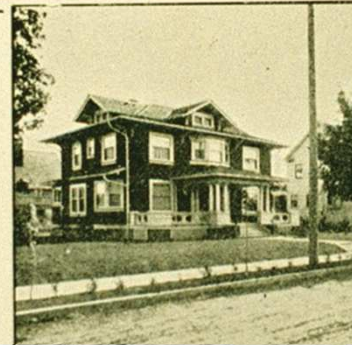
THE JACOBS-STONE COMPANY
1215 1/2 1ST ST.
PORTLAND, ORE.

IRVINGTON
The Select Residence

District of Portland

IRVINGTON
227 215
CHAMBER OF
COMMERCE
CITY PRES. SCOTT TRUSTEE

Two Lines of Street Cars
Every Fifteen Minutes



enabling a new quality of life and access to recreation

Looking ahead...

Public policy today

Public sector activities

Improving air quality



Reducing congestion, increasing reliability



Enabling high tech business clusters



Enhancing remote airport access



Intended investment benefits

- Recreation, tourism
 - Access to jobs
 - Urban development
 - Saving time (*rapid transit*)
 - Improving reliability (*congestion reduction*)
 - Improving Intermodal access
 - Quality of life (*livability*)
 - Equity effects (*socio-economic & spatial distribution*)
- } industry tech clusters

(2) The origins and evolution of cost benefit analysis

...solutions and new problems...

Before Cost-Benefit Analysis

*Pre 1936 - objective-based planning approach,
...based on any of the following strategic goals:*



Erie Canal, 1825+

Saving traveler time

Saving traveler cost

Congestion / reliability

Safety

Access to jobs, business

Intermodal connectivity

Recreation, tourism

Urban commercial centers

Regional economy

Technology clusters

Pollution Emissions

Freight Logistics

Quality of life, livability

Social-economic equity

1 – Precursor of Cost-Benefit Analysis

1936 (US) – required efficient use of government waterway investment funds ... “the benefits to whomever they accrue [be] in excess of the estimated costs”



San Leandro Waterway
Army Corps of Engineers

Saving traveler time

Saving traveler cost

Congestion / reliability

Safety

Access to jobs, business

Intermodal connectivity

Recreation, tourism

Urban commercial centers

Regional economy

Technology clusters

Pollution Emissions

Freight Logistics

Quality of life, livability

Social-economic equity

2 – Formalization of Cost-Benefit Analysis

1960s – welfare economics: concept of utility (value) to the user, based on price signals and willingness to pay, with “externalities” due to inefficiency in prices. (Assumes independence of effects.)



San Monica Freeway, 1963

Saving traveler time

Saving traveler cost

Congestion / reliability

Safety

Access to jobs, business

Intermodal connectivity

Recreation, tourism

Urban commercial centers

Regional economy

Technology clusters

Pollution Emissions

Freight Logistics

Quality of life, livability

Social-economic equity

3 - Expanded Cost-Benefit Analysis

1970s and 1980s – Evolution of what we now refer to as “Traditional Cost Benefit Analysis “
= expanded user value + pollution produced by users



Los Angeles Subway

Saving traveler time
Saving traveler cost
Congestion / reliability
Safety

Pollution Emissions

Access to jobs, business
Intermodal connectivity

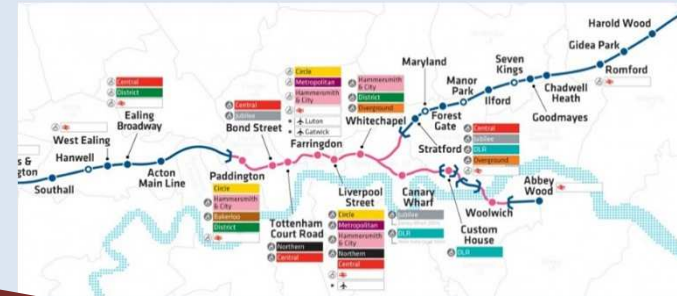
Freight Logistics

Recreation, tourism
Urban commercial centers
Regional economy
Technology clusters

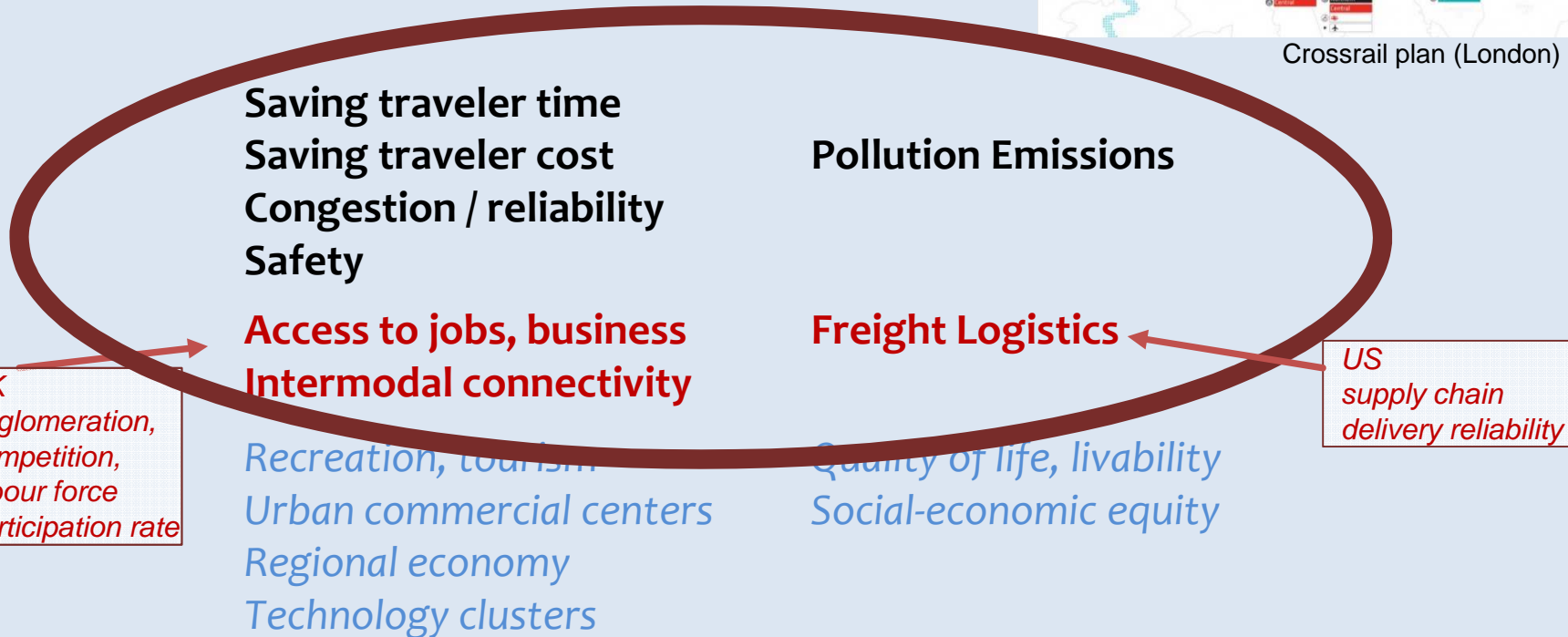
Quality of life, livability
Social-economic equity

4 – Add “Wider Economic Benefits” in CBA

2005-2006 Eddington Transport Study,
 UK Dept. for Transport discussion papers,
 WebTAG guidance (agglomeration effects on GDP)



Crossrail plan (London)

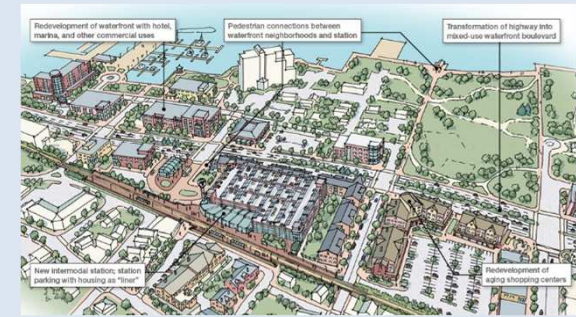


(3) Redefining the concept of “wider benefits”

...alternative perspectives

Economic Development Perspective

1960s –inter-industry, inter-region economic models
 1990s – application of economic models for transport



Plan for South Coast Rail (Massachusetts)

Saving traveler time
Saving traveler cost
Congestion / reliability

Pollution Emissions

Access to jobs, business
Logistics: technology adoption
Intermodal connectivity

Safety

Recreation, tourism
Urban commercial centers
Regional economy
Technology clusters

Quality of life, livability
 Social-economic equity

US
 Inward investment
 & export substitution

Multi-Criteria Perspective

*1960s – multi criteria decision analysis, appraisal table
...accounting for social factors and values
Today – (US) dominant method for prioritization*



U.S. "Livable Communities"

**Saving traveler time
Saving traveler cost
Congestion / reliability**

Pollution Emissions

**Access to jobs, business
Intermodal connectivity
Recreation, tourism
Urban commercial centers
Regional economy
Technology clusters**

Freight Logistics

**Quality of life, livability
Social-economic equity**

Examples of Multi-Criteria Rating Factors

Traveller Benefit & Environment (quantitative)

Efficiency: Travel time, cost, level of service

Safety: collision rate and severity

Pollution: emissions/greenhouse gases

Strategic (System Productivity) Benefit

Intermodal access & interchange

Improve freight logistics

Social Goal Achievement (qualitative)

Location: area revitalization / regeneration

Land use: cluster or in-fill development patterns

Econ policy: support target industry growth

Leverage: private investment, financial sustainability

Inclusion: equity for underserved groups

Supports health and quality of life

Macroeconomic Outcomes quantitative)

Job Growth, reduced unemployment

Income and Gross Regional Product

Implications
for:

Performance
Indicators

--

Contracting
elements

--

Public-private
roles

(4) Applications, Uses and Issues

...how do they matter?

Decision steps

Formal Progression of Decisions & Plans:



Differences in:

Stakeholders

--

Decision-
makers

--

Institutional
processes

Required Information

- Overall Benefit and Cost

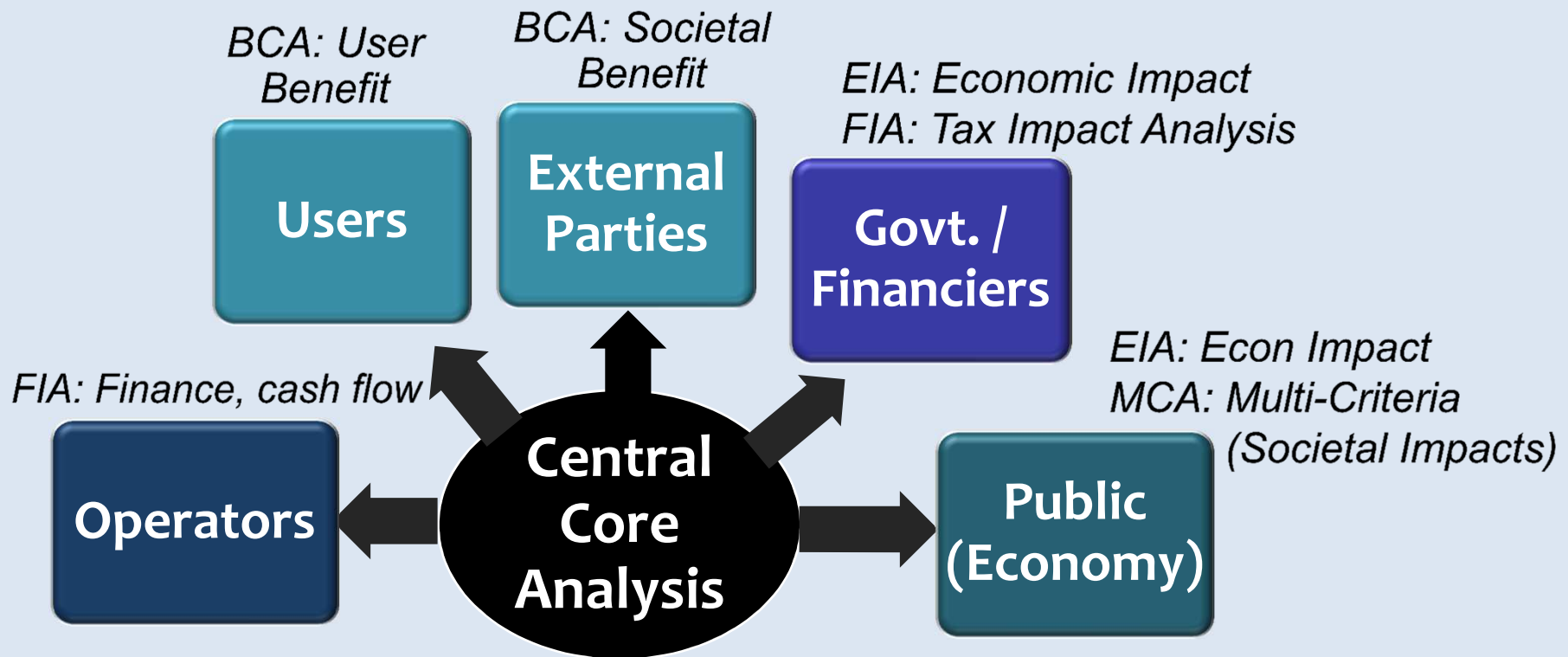
- Distribution of impacts:

- elements of economy & society (who)
- spatial locations (where)
- Timing of impacts (when)



Decision Information

Various decision-makers require data reflecting different perspectives.



Moving forward



Need to consider...

- Investment goals:
public policy vs. contractor objectives
 - Performance measures:
broader outcomes vs. narrower outputs
 - Financial arrangements:
cost and revenue sharing opportunities
 - Tendering and contracts:
reflect goal and performance factors
 - Evolution of arrangements:
changing institutional roles and boundaries
- Apply CBA to assess wider effects of alternative contract regimes, including incentive structures, transaction and administration costs, and benefits to a wide variety of different stakeholder parties.