Economic Development
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Economic Prosperity Impact Metrics for Transportation Project Scoring

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Presentation to Caltrans Scoring Workshop

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Agenda

1) Context: The use of multi-criteria scoring with economic impact metrics

2) How different states score economic effects

3) Recommendation for Caltrans

Context:
The Use of Multi-Criteria Scoring with Economic Impact Metrics

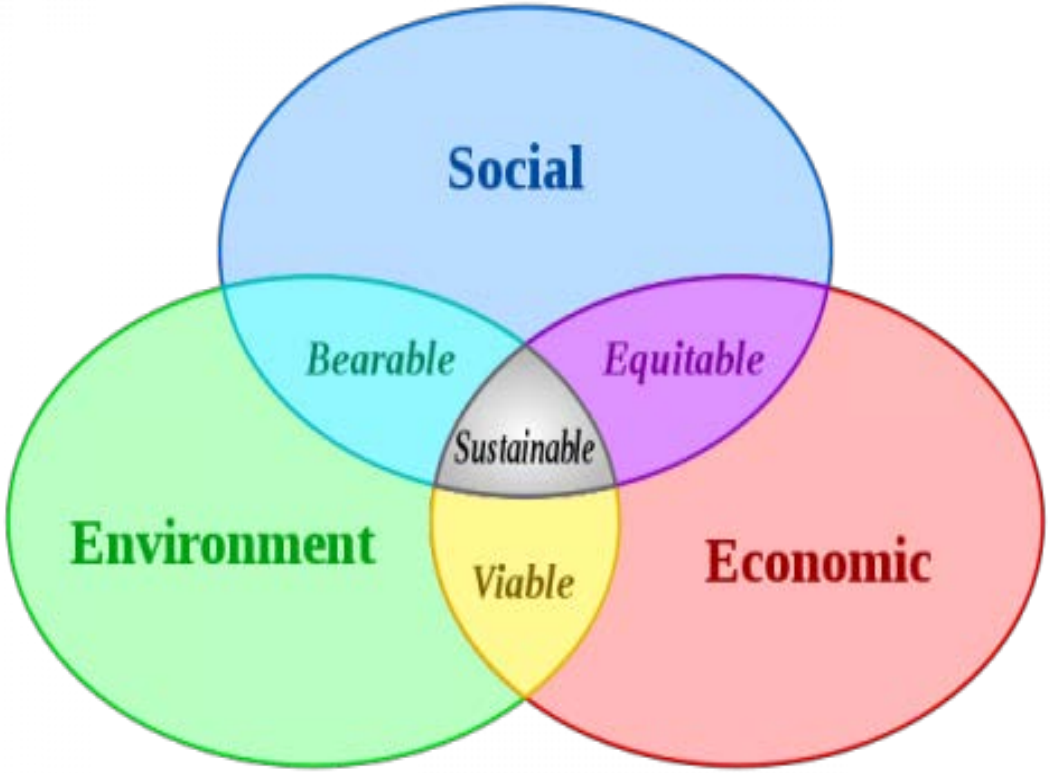
Perspective: "Business case" analysis

→ Government is in the *business* of serving people to make their lives better. But to do this, we need to evaluate proposed plans and projects in the following terms

- **The Economic Efficiency Case** – *Is it an **efficient** use of funds? (Does it provide overall value for money?)*
- **The Strategic Case** – *Does it address **strategic public goals** regarding individual benefit/ cost components and their distribution (incl. equity and sustainability)?*
- **The Financial Case** – *Is it economically **viable**?*
- **The Commercial and Management Case** – *Is it organizationally achievable?*

Strategic goals reflected in scores

→ The economic prosperity dimension overlaps other dimensions of public policy in many ways -- including equity, viability and sustainability considerations.



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Strategic goals in scoring criteria

Agency	Mobility	Safety	Access and Connectivity	**Economy**	Society	Environment
North Carolina DOT	X	X		X		
Pikes Peak MPO	X	X	X	X		X
Kansas DOT	X	X		X		
Wisconsin DOT	X	X	X	X	X	X
Ohio DOT	X	X		X	X	X
Minnesota DOT	X	X	X	X	X	X
Oregon DOT	X	X	X	X	X	X
Michigan DOT	X	X	X	X	X	X
Missouri DOT	X	X	X	X	X	
Virginia DOT	X	X		X	X	X

The Basis of Economic Prosperity

Prosperity = economic well-being; achieved by having household income to purchase desired goods and services (standard of living).

Desired goods & services: housing, education, health care, recreation, retail – all enabled by inflow of income *into* a region, which requires producing & selling products & services to buyers *outside* the region.

That in turn requires **productive and competitive industries** in the region, which depend on both mobility and accessibility.

- *Mobility improvements* reduce cost of labor, goods & services (for existing workers and business product/service deliveries)
- *Accessibility improvements* expand the scale of labor, supplier & customer markets, and matching of specialized products and worker skills to business needs (enabling business activities not already occurring).

Econ metrics matched to strategic goals

Dimension	Metric	Strategic Policy Effect Addressed
Overall State Economy	Jobs	Reduce overall region unemployment Increase career advancement opportunities
	Worker Income	Better paying jobs for residents
	GDP	More income for farm & resource industries More inward investment & tax revenues
Spatial Distribution	High unemp. and low income areas	Target job & income growth where most needed Address historic inequity in access to opportunities
	Urban and rural areas	Support agriculture & resource market access Address inequity in pop. access to opportunities
Econ Sector Distribution	High tech / growth industry clusters	Support sectors with greatest potential to provide sustainable jobs & income growth in future years
	Freight facility: access, connectivity, and reliability	Recognize freight user benefits Productivity for export industries and commerce that is the lifeblood of job and income growth
Temporal Distribution	Reinforce policy, leverage investment	Support long term sustainability for economic and spatial development

How Various States Measure Economic Impacts in Scoring

Wisconsin Highway Scoring

Measure	Component	%	Weight
Economic and Development	Existing business save travel cost	10%	40%
	Provide Connections – on Econ Corridors or NHS Network	10%	
	Increase productivity	20%	
	Accommodate business growth sectors		
	Facilitates exports that bring in outside dollars		
Traffic Flow	Level of Service		20%
Safety	Crash rate; severity; pedestrian & bicycle factos		20%
Environmental	Natural, physical resources	5%	10%
	Socio-economic, cultural resources	5%	
Community Input	Public support or opposition		10%

Missouri Hwy Scoring

Economic Competitiveness – 15 points	
Strategic Economic Corridor	40%
Supports Regional Econ Devel Plans	30%
Level of Economic Distress	30%
Congestion Relief – 30 points	
Level of Service	40%
Daily Usage	30%
Functional Class	30%
Efficient Freight Movement– 5 points	
Truck Volume	60%
Freight Bottlenecks	20%
Intermodal Freight Connectivity	20%
Access to Opportunity – 5 points	
Vehicle Ownership	75%
Eliminate Ped/Bike Barriers	25%

Safety – 30 points	
Safety Index	80%
Safety Concern	20%
Quality of Communities – 5 pts	
	50%
Connectivity between Cities	50%
Environment Protection – 5 pts	
Environmental Impact	100%
System Function – 5 pts	
Bridge Condition	40%
Pavement Condition	40%
Substandard Roadway Features	20%

Ohio Hwy and Transit Scoring

Economic Performance Factors (15 pts)	Points
Existing Jobs Within the Project Area	5
Estimated Jobs Created in State	3
Estimated Gross State Product Generated	2
Considering Factors of Economic Distress	2.5
Economic Distress in relation the Estimated Economic Performance	2.5

Local Investments (15 pts)	Points
Percentage of Acres Served by Local Streets	15
Percentage of Acres Served by Local Water and Sewer	
Percentage of Acres Served by Local Electricity	
Square Feet of Industrial Buildings Within the Project Area	
Square Feet of Warehouse Buildings Within the Project Area	
Square Feet of Commercial Buildings Within the Project Area	
Square Feet of Vacant Building Space in Project Area	
Road Routes Served by Fixed Transit Routes	
Dollar value of Committed or Recent Public Investment (non-project)	
Dollar Value of Private Investments in(Private Facilities)	

North Carolina Multimodal Scoring

STI Category	Statewide Mobility	Regional Impact	Division Need
Congestion	30%	20%	15%
Benefit/Cost	25%	20%	15%
Economic Competitiveness	10%	-	-
Safety	15%	10%	10%
Freight	15%	10%	5%
Multimodal (Passenger)	5%	-	-
Accessibility / Connectivity	-	10%	5%
Local Input	-	30%	50%
Total	100%	100%	100%

** Econ Competitiveness is a combination of job and GDP impact*

Range of Score Elements

Rating Factor	CO	OH	NC	MO	WI	KS	UK
Traveller Benefit & Environment (quantitative)							
Efficiency: Travel time, cost, level of service	X	X	X	X	X	X	X
Safety (accident rate)	X	X	X	-	X	X	X
Pollution: emissions/greenhouse gases	X	X	-	X	X	-	X
Strategic (System Productivity) Benefit							
Intermodal facilities, access & interchange	(c)	X	*(a)*	X	*(a)*	*(a)*	X
Reduce localized congestion bottlenecks	X	X	X	X	X	X	*(b)*
Connectivity to key corridors, global gateways	-	-	*(a)*	X	X	*(a)*	-
Reliability of travel times	X	X	*(a)*	-	*(a)*	*(a)*	X
Truck freight route, supply chain impact		-	X	X	*(a)*	X	-
Social Goal Achievement (qualitative)							
Location: area revitalization / regeneration	-	X	-	X	-	-	X
Land use: supports cluster or in-fill devel	X	X	-	X	-	-	X
Econ Policy: support target industry growth	X	-	-	X	-	-	-
Leveraging private investment	-	X	-	-	-	-	-
Local public Support	X	X	X	-	X	X	-
Macroeconomic Outcomes (modelled)							
Econ Productivity Calculation	X	*(a)*	*(a)*	-	*(a)*	*(a)*	X
Job Growth, reduced unemployment	X	X	X	-	X	-	-
Gross Regional Product	X	X	X	-	-	X	*(a)*

X = explicitly included as an element of the rating system;
(a) = implicitly allowed via calculation of additional productivity benefit in BCA or macroeconomic impact using TREDIS
(b) = included in travel efficiency benefit shown above
" - " = not formally part of the rating system, but may still be considered through other elements of the decision process

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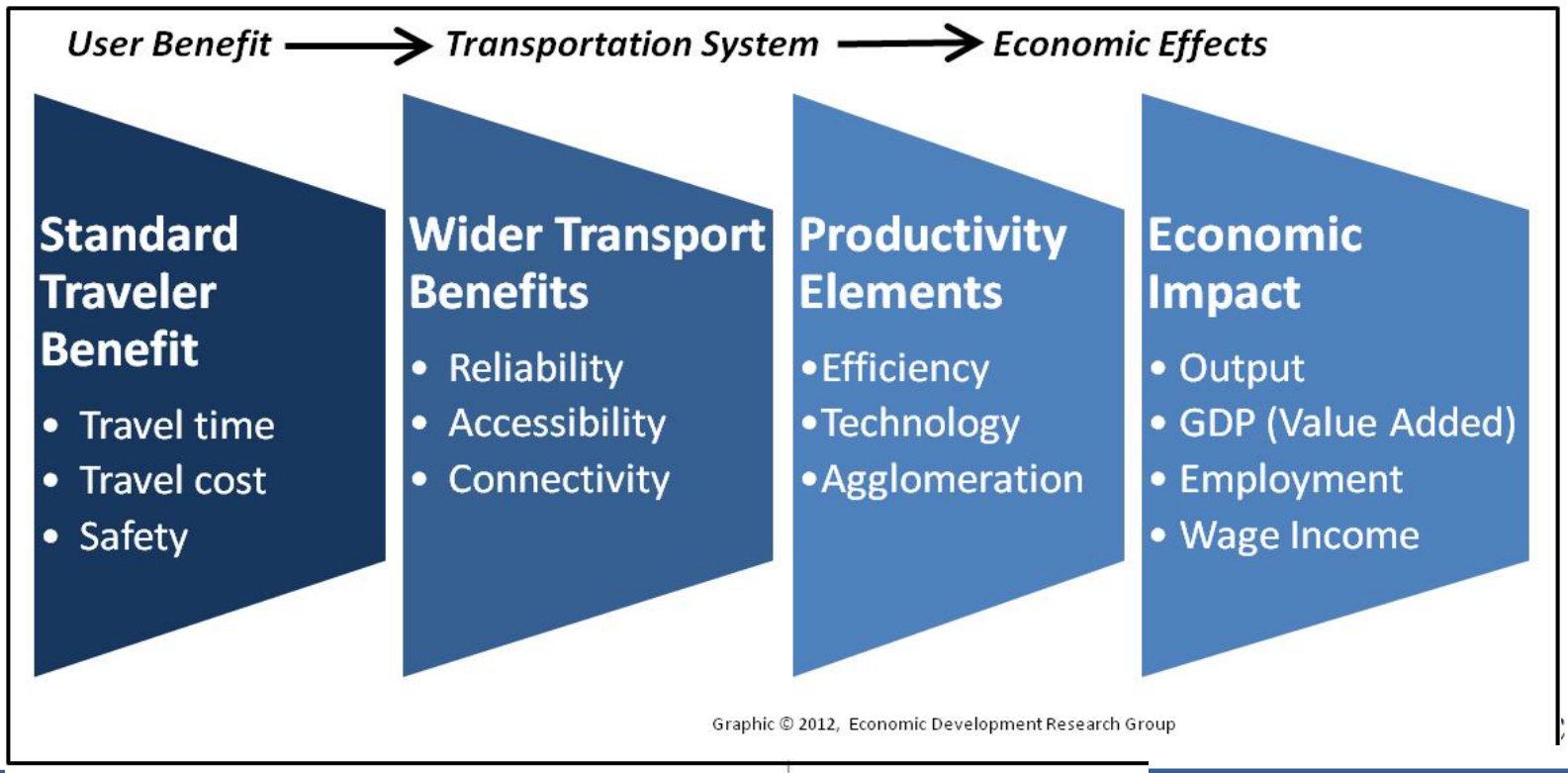
Conclusions and Recommendations

Intermediate & Final Outcome Metrics

- → Transportation impacts drive broader economic effects. But those effects vary widely depending on locations and economy.
- → A convincing economic impact metric will have an accompanying narrative that traces prosperity effects to intermediate measures shown below.
- → Localized property value effects, tax impact effects and quality of life effects are recognized as subsequent consequences of economic growth



Scoring Metrics

1. Match score elements to key policy goals.
2. Define metrics & weights based on constituent consultation (public meetings, business community listening sessions)
3. Calculate metrics using available Caltrans data and analytic tools.

Score Elements (Dimensions)	Metric
Overall State Economy	Jobs (unemployment reduction)
	GDP (well paying jobs, high GDP per capita)
Spatial Distribution	High unemp. and low income areas
	Urban and rural areas
Econ Sector Distribution	High tech / growth industry clusters
	Freight facility: access, connectivity & reliability
Temporal Distribution	Reinforce & leverage LT public policy & private investment

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Defining Economic Impact and Benefit Metrics from Multiple Perspectives: Lessons from Both Sides of the Atlantic (2011) European Transport Conference, Glasgow, 2011.
http://www.edrgroup.com/pdf/Weisbrod-Simmonds-ETC-Oct2011R.pdf

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