



Collaborative Management in Neighborhood Transit Programs

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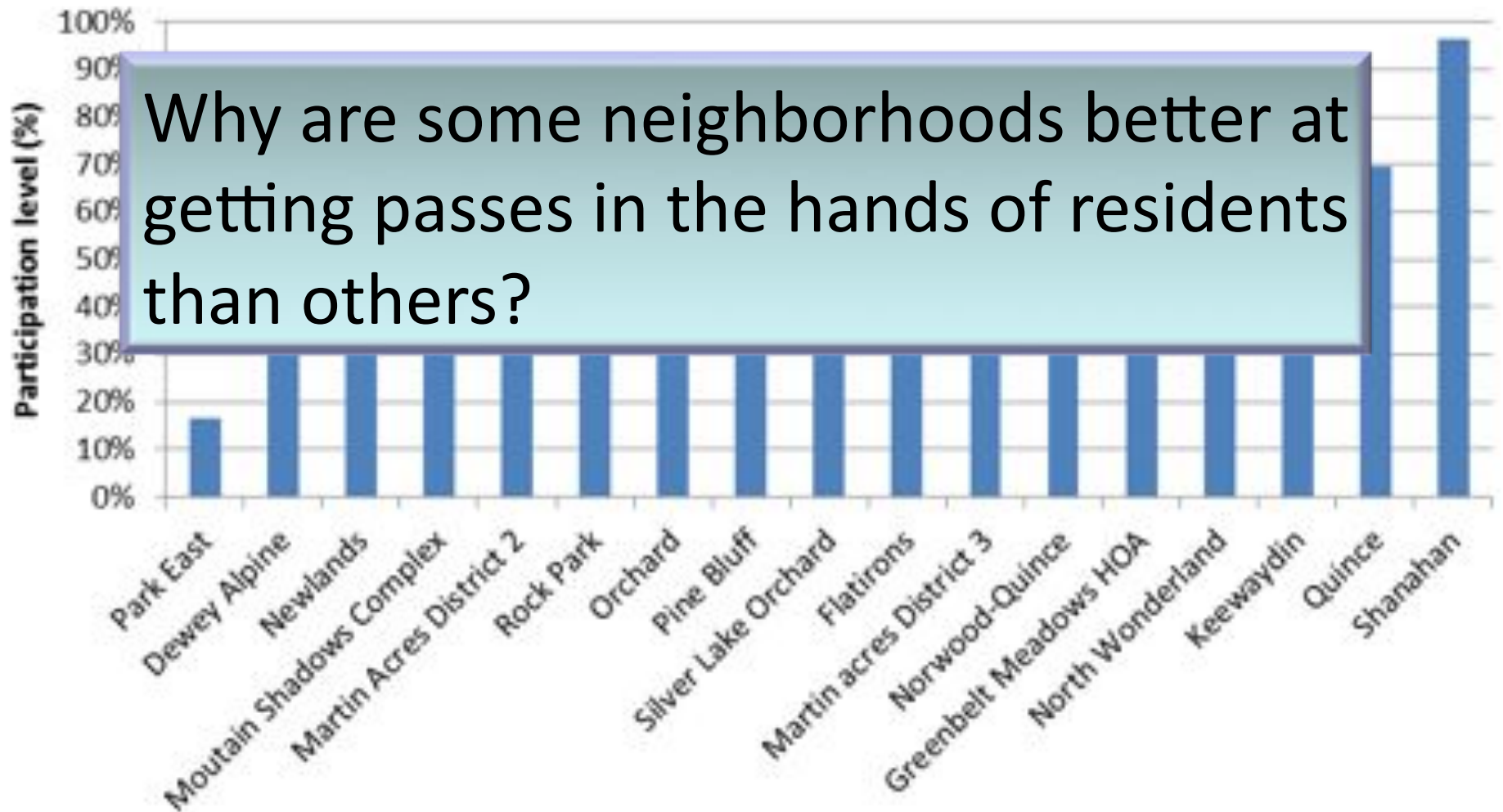
Road map



Neighborhood
Co Pass
Economic, Ecological

Neighborhood Participation Levels

Neighborhood Participation



Deeply Discounted Pass Programs

University Pass



Unlimited Access Pass

Business Pass



Unlimited Access Pass

Neighborhood Pass



Unlimited Access Pass
for paying members

City-wide Pass



All residents are eligible
for pass

Transit Pass Effectiveness

- 71 to 200 % increase in initial ridership
- 2 to 10 % growth in following years (Brown et al. 2001)
- 40 % of growth in system-wide boardings attributed to ECO Pass (Nuworsoo 2004)

Brown, J., Hess, D. B., & Shoup, D. (2001). Unlimited Access. *Transportation*, 28, 233–267.

Nuworsoo, Cornelius (2004). “Deep Discount Group Pass Programs as Instruments for Increasing Transit Revenue and Ridership.” Ph.D. dissertation, University of California at Berkeley.

Nuworsoo, 200



www.arrowphotos.com

Boulder's Neighborhood Eco-Pass (NECO)



The NECO Pass functions as a co-op



Neighbors pool funds, provide some or all residents with a pass



38 participating neighborhoods

~13,000 residents live in participating neighborhoods

~7,000 NECO passes



Neighborhood Characteristics



- NECO pass neighborhood median household income \$70,000
- Well-established, single family residential neighborhoods
- Not college students / low income
- Average number of households: 160
- Median neighborhood contract price: \$8,470

Organizing a NECO-Pass Neighborhood

1. Assume role of coordinator
2. Gauge interest level of neighbors, recruit help
3. Determine neighborhood boundaries
4. Transit agency (RTD) sets neighborhood cost
5. City of Boulder subsidizes 25 - 50%
6. Coordinator establishes pricing structure
7. NECO Pass provided to those who pay

NECO Pass Pricing

- Two basic funding mechanisms:
 - Compulsory: All households pay fixed amount through tax or HOA dues
 - Voluntary: Collect money from interested households or individuals

Voluntary NECO Pass Pricing Strategies

Strategies

All interested parties pay same price

Sliding scale with categories

Negotiated

Example NECO Pass Price Chart

Age group	Usage	Cost of Pass
Child		\$25
Teen	4 or fewer local trips/month	\$50
Teen	5 to 10 local trips / month	\$75
Teen	11 or more local trips / month	\$100
Adult	1 or less local trips / month or one trip to the airport per year	\$25
Adult	2 to 5 local trips / month or 2 to 6 trips to the airport	\$75
Adult	6 to 10 local trips / month or 7 to 12 trips to the airport	\$100
Adult	11 or more local trips / month or over 12 trips to the airport	\$150
Adult	Daily commuter outside of Boulder County	\$400
Senior	50% of adult rates above	

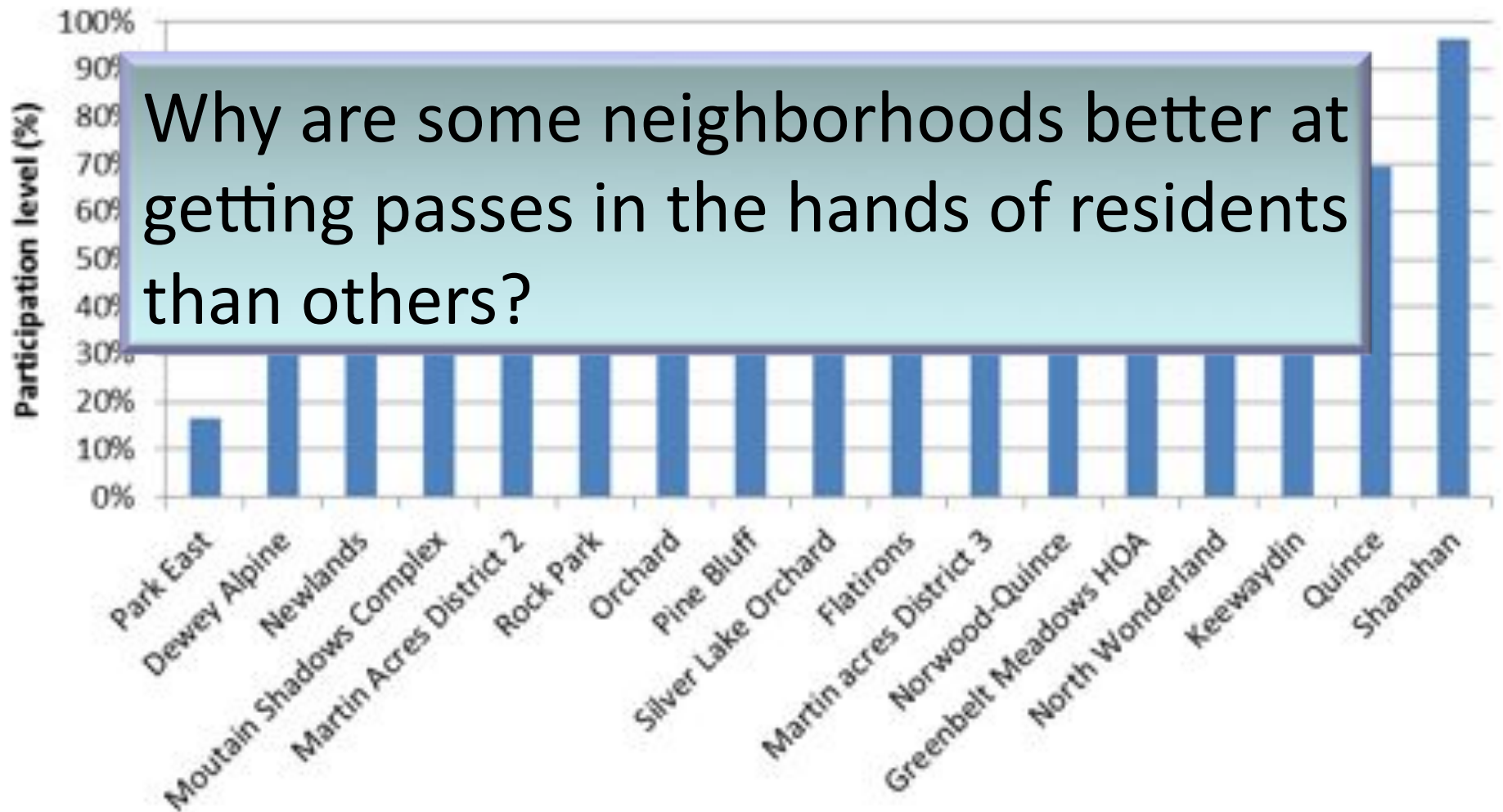
Suggested by North Wonderland Neighborhood

http://www.bouldercolorado.gov/files/Go%20Boulder/sample_ppform.pdf



Neighborhood Participation Levels

Neighborhood Participation



Survey

- Online survey sent to NECO Pass coordinators

Survey Sections

- Coordinator involvement
- Neighborhood organization
- Strategies for success

- 24 completed surveys (~50% response rate)



Survey Results – Predicting Success

- Middle / high school students
- Core group of regional commuters
- Hours of volunteer labor and perseverance
- City subsidy
- Level of organization

Survey Results – Characteristics of Coordinators

- Motivated by their belief in transit and the NECO Pass program
- 60 % retired or work from home
- 20 % employed full-time in jobs outside the home
- 80 hours a year organizing neighborhood
- Assisted by 5 other volunteers

Data

Variables	Source
Proportion of Residents Aged 6 to 17, Median Household Income, Density (Household/sq. km), Percent rental, Neighborhood area , Number of households,	2000 U.S. Census
Coordinator hours, Team size, Lowest price paid, Average price paid, Price structure,	Survey data
Distance to main transit corridor, Presence of neighborhood Web site	GIS, Google

Results

	Stand. Coeff. (Beta)	T-stat	Significance
Proportion of Residents aged 6 to 17	0.944	4.131	0.003**
Median Household Income	-0.715	-3.535	0.008**
Density	0.488	2.947	0.019*
Coordinator Hours	-0.480	-3.197	0.013*
Team Size	0.562	3.345	0.010**
Years of Success	0.413	2.814	0.023*

*p<.05 , **p<.01

Dependent Variable: Percent participation of neighborhood households

Model (F=8.324) p<0.005

Adj. R-Square = 0.758

Sample size =19

Non-influential Variables

- Lowest price paid
- Average price paid
- Price structure
- Percent rental
- Distance to main transit corridor
- Neighborhood area
- Number of households
- Presence of neighborhood Web site

Conclusions

- Neighborhood characteristics are associated with higher participation
 - Children between the age of 6 and 17
 - Number of volunteers
- Assist practitioners identify locations where program may be replicated
- Lowest price paid NOT decisive factor in participation
- Coordinator skills / motivation may be an important factor

Next Steps

- Increase sample size
- Survey unsuccessful neighborhoods
- Survey NECO pass holders to understand motivations
- Compare with San Francisco?

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How Price Strategy Impacts Deeply Discounted Neighborhood Transit Programs

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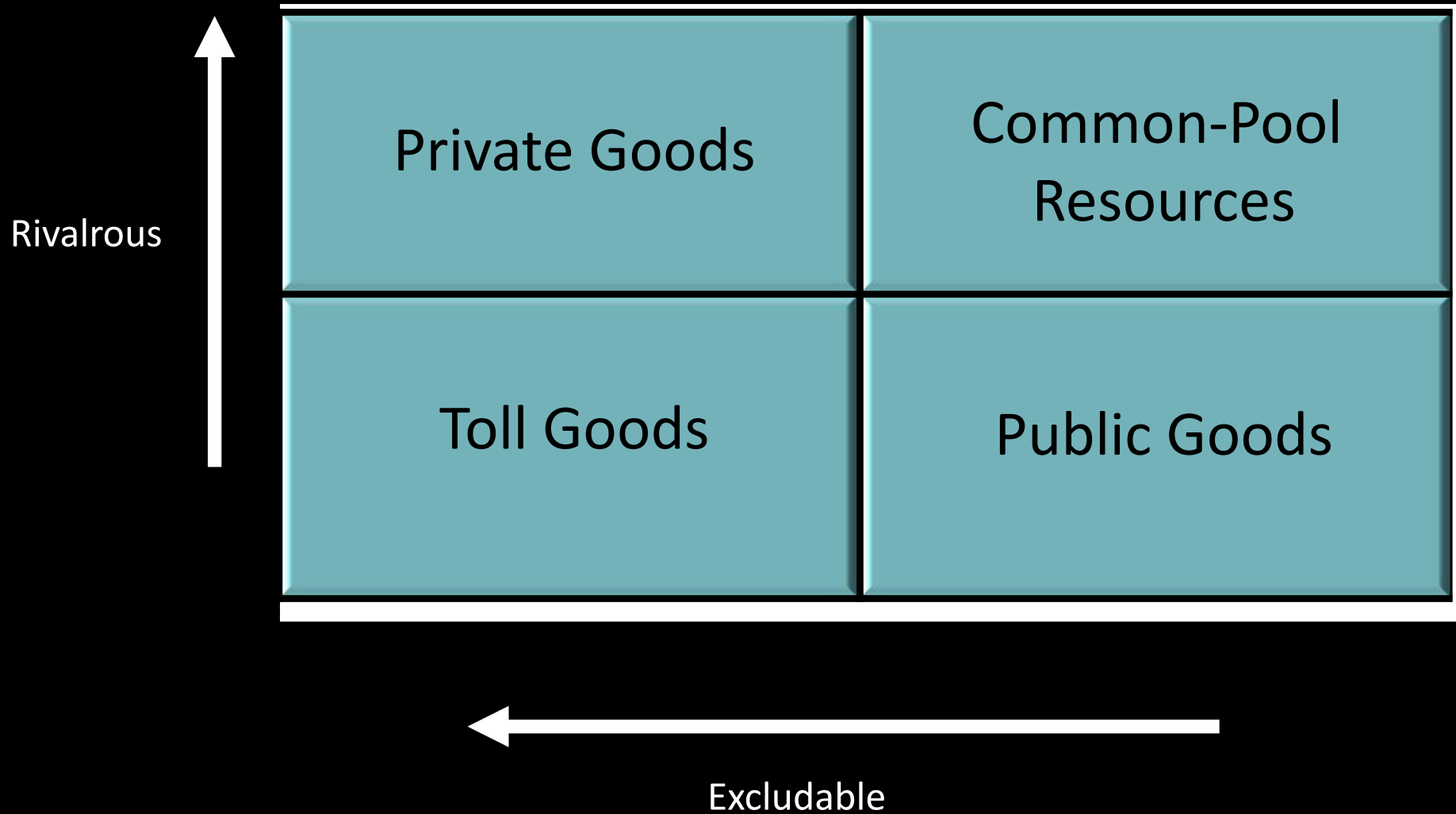
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The Relevance of Excludability to TDM

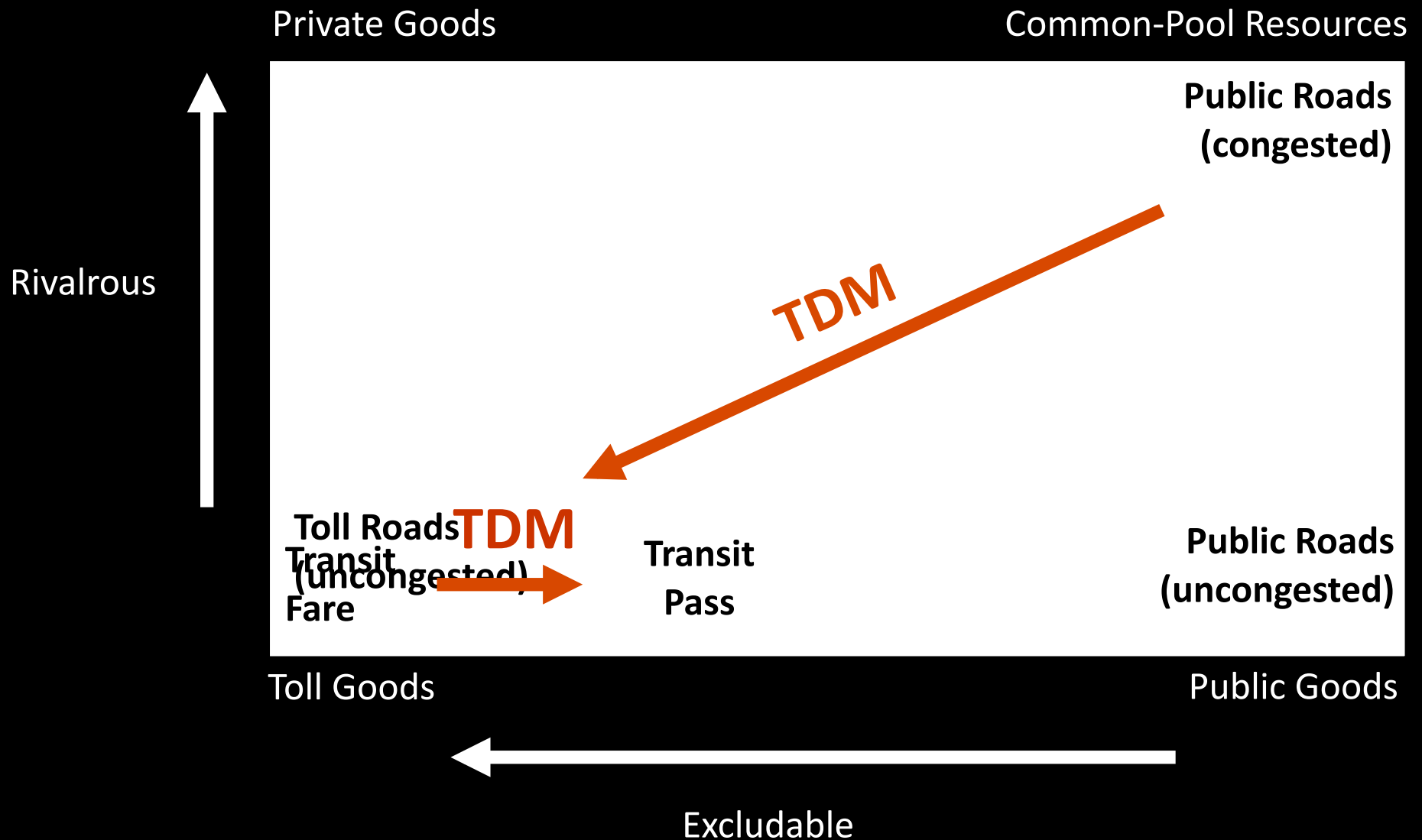
Excludability provides a way to manage demand for public road space

- Makes driving more excludable
- Makes other modes less excludable

Typology of Goods



Typology of Goods



Why is Excludability useful in studying TDM?

- A new way of looking at the familiar
- Qualitative
 - Can include factors other than price
 - Can be made quantitative
 - Not the only way to look at it!

Practical application of Excludability

- Quantifying excludability
 - Monetary costs
 - Time costs
 - Exclusive regulation or other metrics
 - Pricing strategies / neighborhood organization
 - Relative price of transit pass as measure of excludability.

Neighborhood Eco Pass

Economical, Ecological