



THE MISSION GROUP

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Presentation to:

The Task Force on Environmental Justice in Transportation
84TH ANNUAL MEETING OF THE TRANSPORTATION RESEARCH BOARD



Addressing Environmental Justice

Is Demographic Segmentation Sufficient?

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12 January 2005



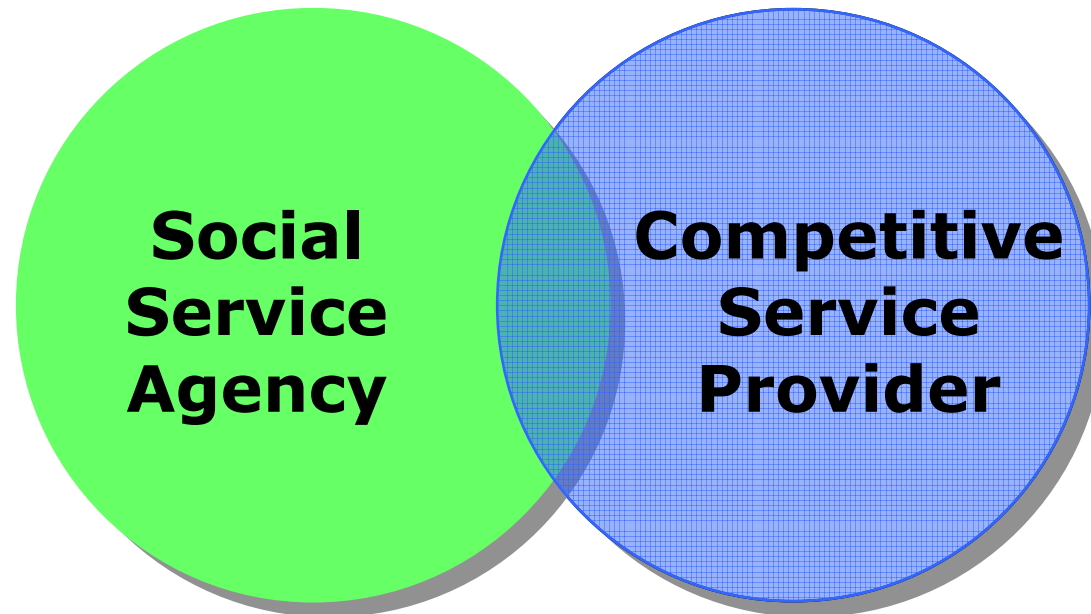
The Basic Challenge: Roles in Conflict

**Provider of
mobility of
last resort**

**Extensive
Services**

**Price
Sensitive**

**Provide
greater access
to more of the region**



**Provide
regional
alternative**

**Intensive
Services**

**Service
Sensitive**

**Provide a
better option than
driving for *certain* trips**

Many transit agencies have *evolved* as part of the social service apparatus of the state. They are rarely equipped—or have the stomach—to develop and deploy competitive systems.

Why Do Cities Invest in Transit?

**"Reduce"
Congestion**



**Improve Air
Quality**



**Reduce
Sprawl**



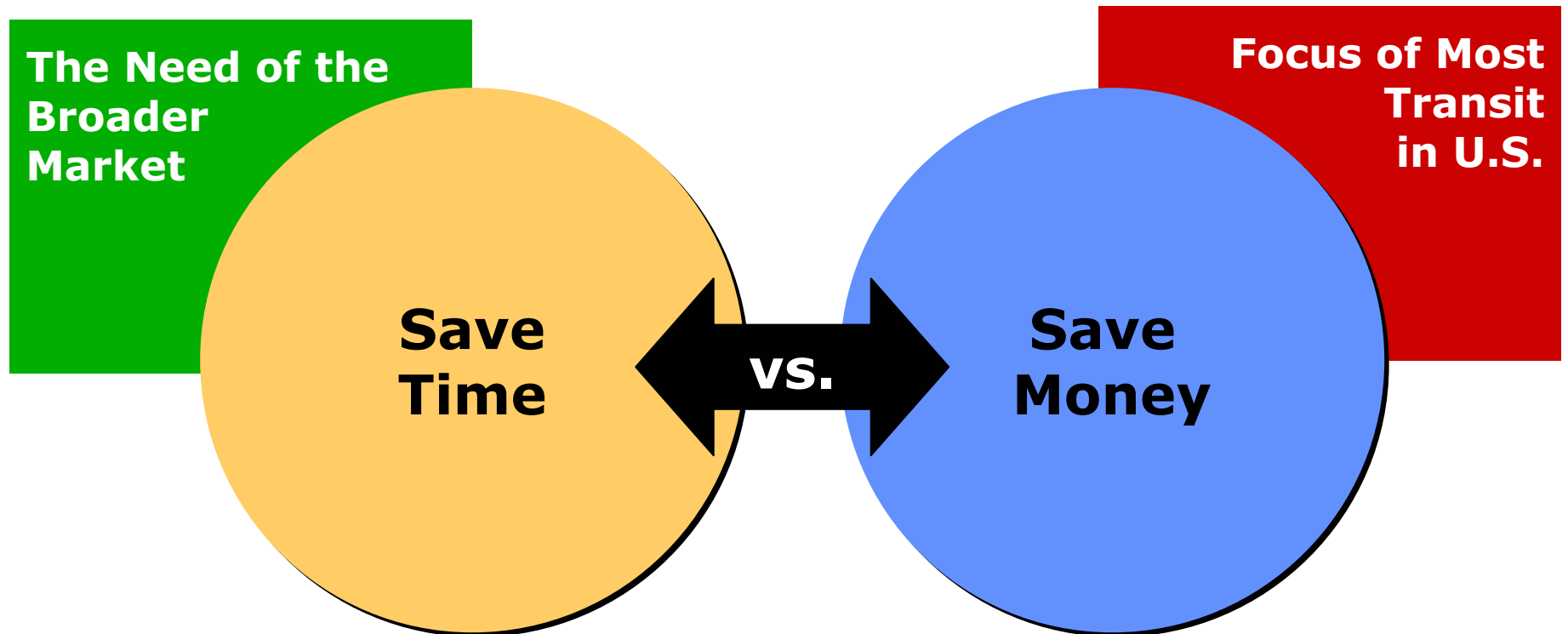
**Mobility &
Provide Choice**



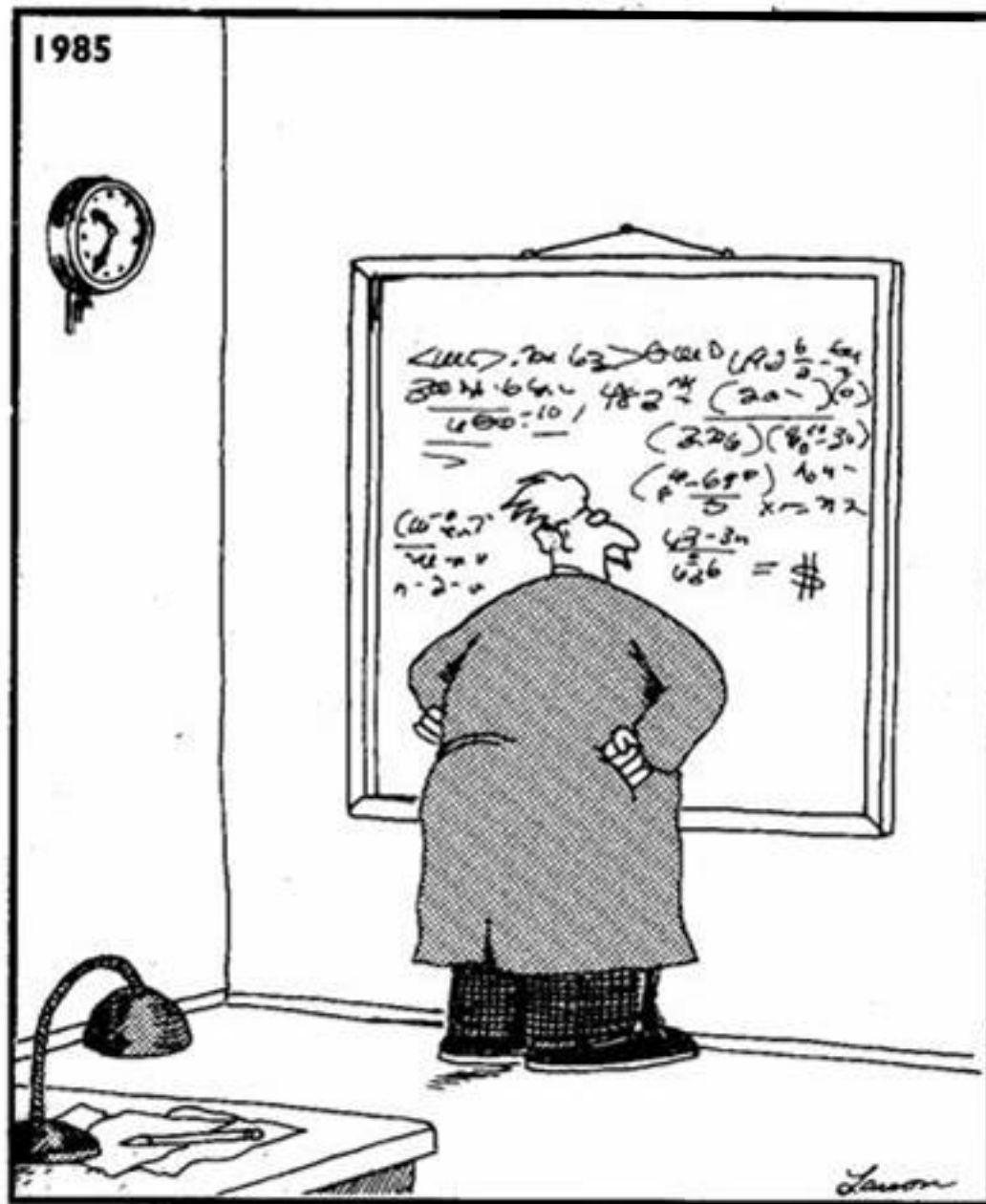
To accomplish these goals, transit must attract someone who would otherwise drive a single-passenger automobile.

But Is It a Better Choice?

The Basic Market Trade-Off



Most U.S. transit systems are part of the social service system, providing mobility to those who can't afford other options. In sustainable cities, transit is designed to meet the needs of a broader market, much of which leads busy lives and wants to save time.



Einstein
discovers
that time
is actually
money.



Typical Issues of Env. Justice

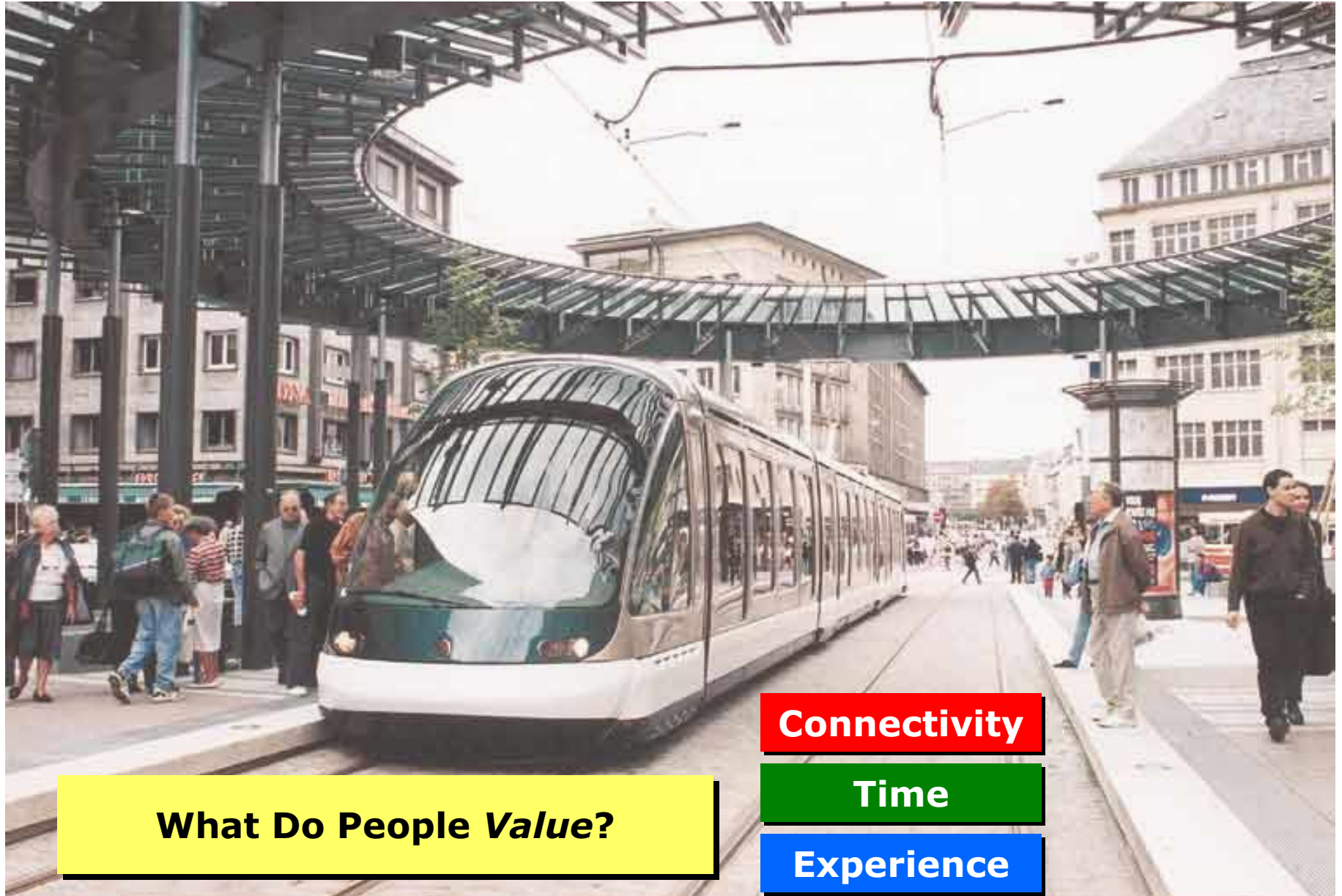
How We Treat Train Passengers



System Design
Service Planning

How We Treat Bus Passengers





What Do People *Value*?

Connectivity

Time

Experience

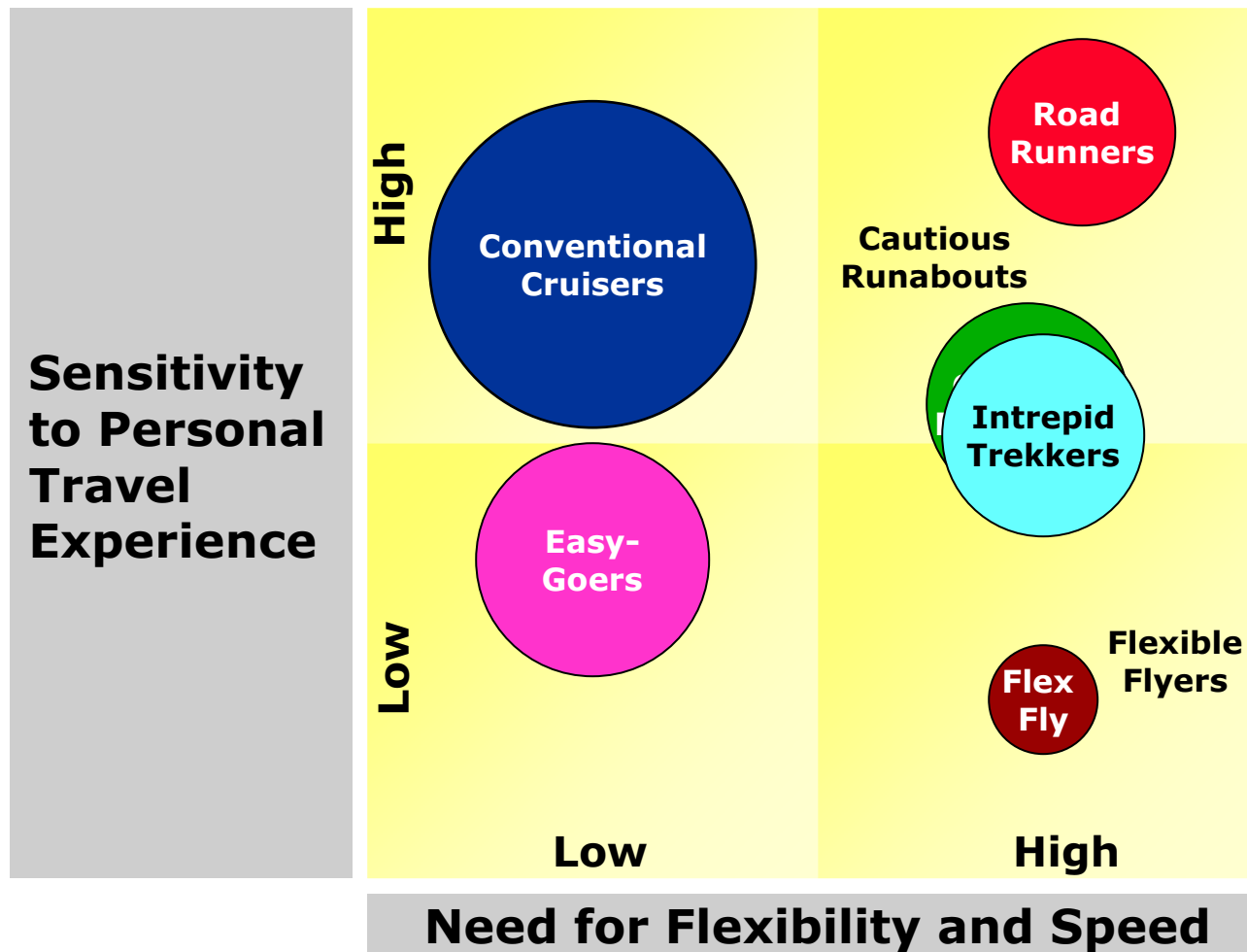
Learning from San Diego



The Transportation Market

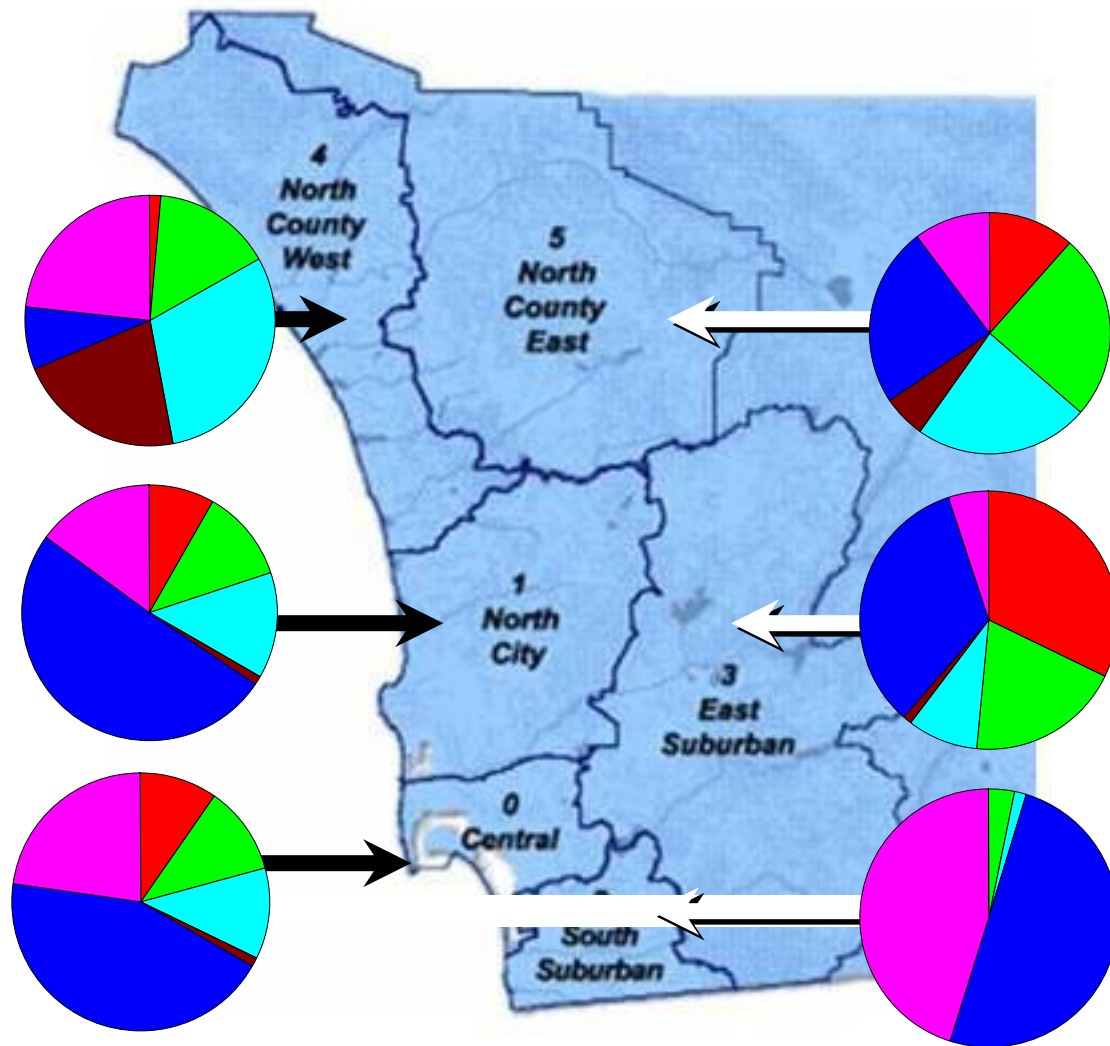
Market Research Results from San Diego

Source: Cambridge Systematics





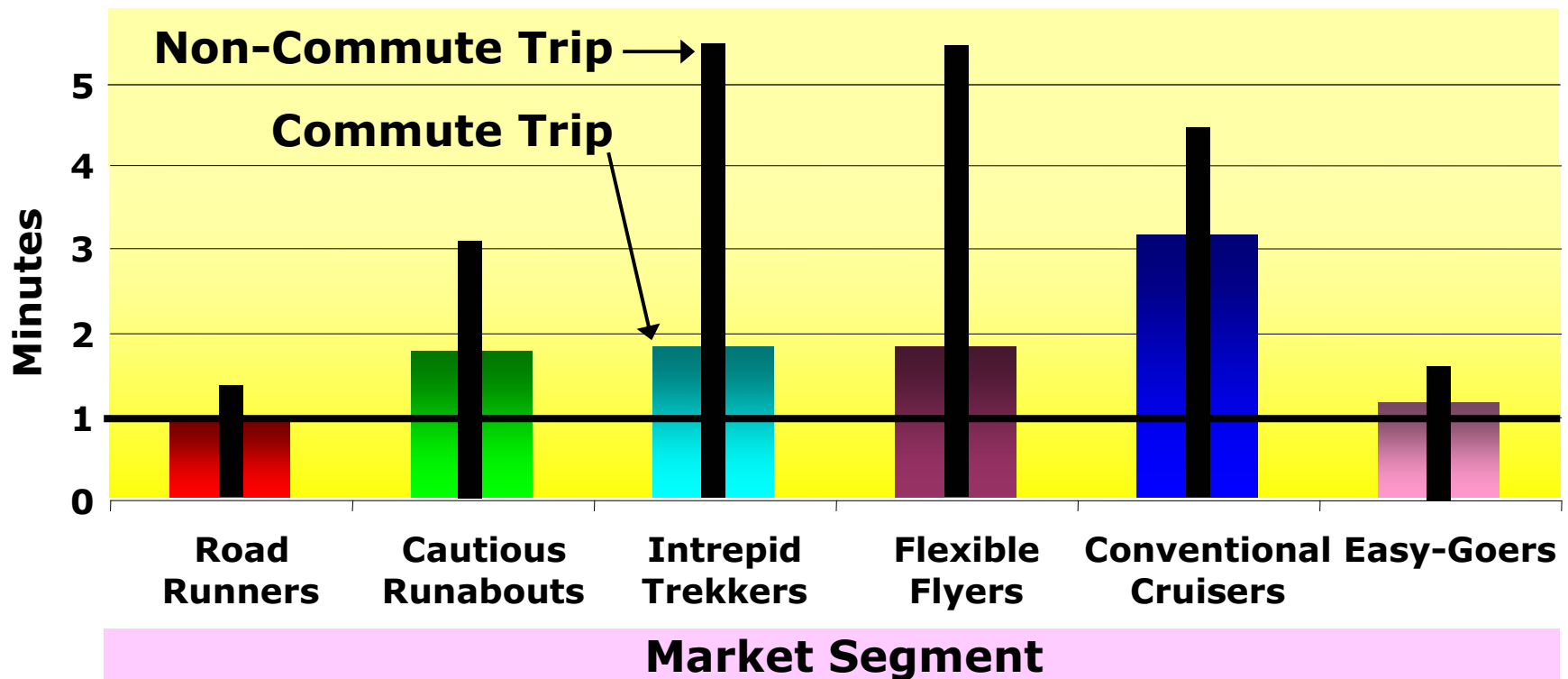
Market Segment Breakdown



Segment	Needs Flex/Speed	Sensitivity to Travel Experience
Road Runners	Hi	Hi
Cautious Runabouts	Hi	Med
Intrepid Trekkers	Hi	Med
Flexible Flyers	Hi	Low
Conventional Cruisers	Low	Hi
Easy-Goers	Low	Low

Walking Time

What Does 1 Minute of Walking Time Feel Like?

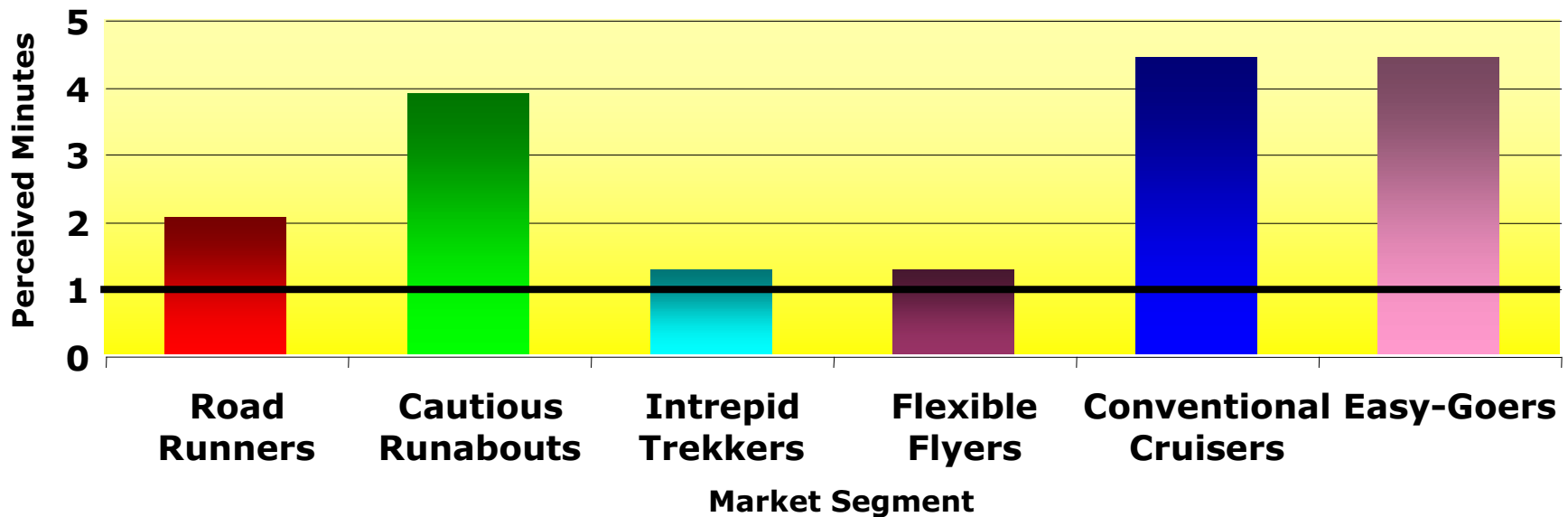


Market segments can vary widely in their sensitivity to different design variables. *One size does not fit all.*

Waiting Time

What Does 1 Minute of Waiting Time Feel Like?

(Commuting Trip)



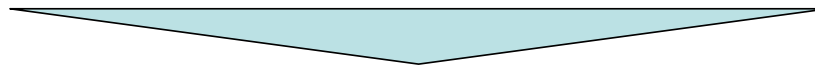
Market segments can vary widely in their sensitivity to different design variables. *One size does not fit all.*

Learning from Metro Atlanta

TRANSIT, HOWEVER, WILL ONLY WORK TO REDUCE CONGESTION IF IT ATTRACTS PEOPLE OUT OF THEIR CARS

But transit is not typically designed to compete with the automobile:

- We decided to take a different approach
- Transit service should be developed and implemented like any business would tackle the challenge of a new product launch



Conducting consumer-based market research is the only way we can discover what is important to the commuter and design a system to lure people out of their cars

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GOALS OF THE MARKET RESEARCH

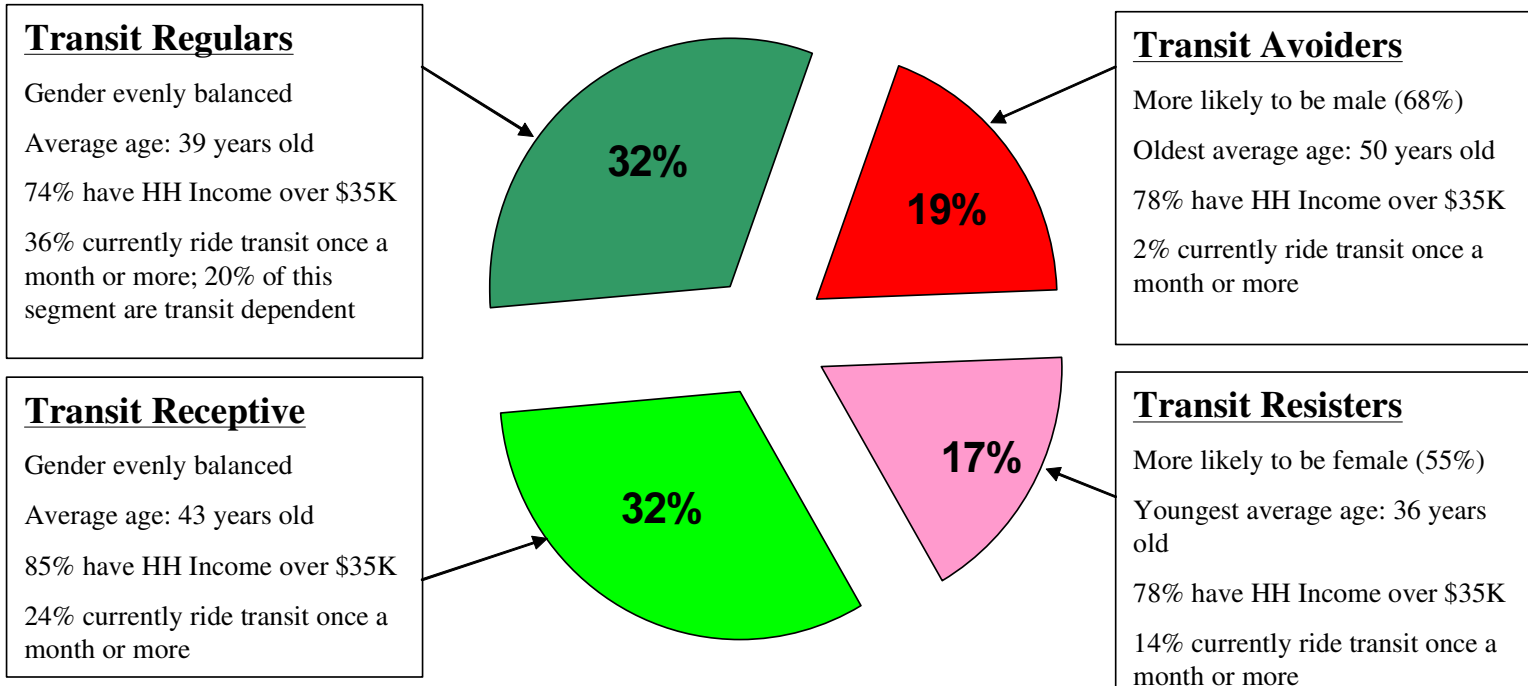
We wanted to find out how to get the single-occupancy car driver to use transit

- The Cumberland CID, the Metro Atlanta Chamber, and Perimeter CIDs joined forces to tackle the challenge like a business would – with consumer market research
- We leveraged the best-practice market research work that was done in San Diego, and went beyond it
- To accomplish our goal, we set out to understand the interests and concerns of commuters that generate demand for transit
 - Defined the Market Segments in order to group commuters by their attitudes toward transit
 - Defined the market potential for each Market Segment and determined how to cost effectively serve those who would use transit
 - Developed a strategy for increasing transit's overall market share in Metro Atlanta

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2 OUT OF 3 COMMUTERS WILL CONSIDER USING TRANSIT

We found that the commuting population can be split up into four groups; the two largest ones are receptive to taking transit



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Key Findings and Critical Success Factors

- Station location is also important.
 - Nearly 80% of respondents would walk 3 minutes from the station to their final destination. If the walk is 5 minutes, approximately 50% would do it.
 - 72% of respondents who have vehicles would be willing to drive 3-4 miles to reach a station.
- The most important vehicle characteristics are:
 - Comfortable seats
 - Space for a backpack, briefcase, or other small bags
 - Information screens/monitors
- Key Stations attributes:
 - Restrooms
 - Seating areas for waiting
 - ATM
 - Parking
 - Information screens/monitors and/or information booth
 - Amenities
 - Coffee house
 - Post office
 - Fast food
 - Vending
 - Newsstand
 - Convenience store
 - Bank

PROPERLY MANAGING RIGHT-OF-WAY ON KEY ROUTES COULD INCREASE RIDERSHIP BY 60%

Right-of-way has a multiplying affect

- The public must perceive that the transit route is special
- Free-flow conditions keep travel times competitive with the car



The public must perceive that transit moves unencumbered by regular traffic:

- There are options to ensure this (dedicated transit-ways, managed lanes, etc.)
- It will have to be addressed costeffectively, corridor by corridor
- It will take more time and money, but it is worth the investment

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... BUT HIGHLIGHTS THE NEED FOR THE “TRAIN - LIKE” EXPERIENCE – NO BUSES OR COACHES

THIS

Light Rail



OR THIS

Flex Trolley



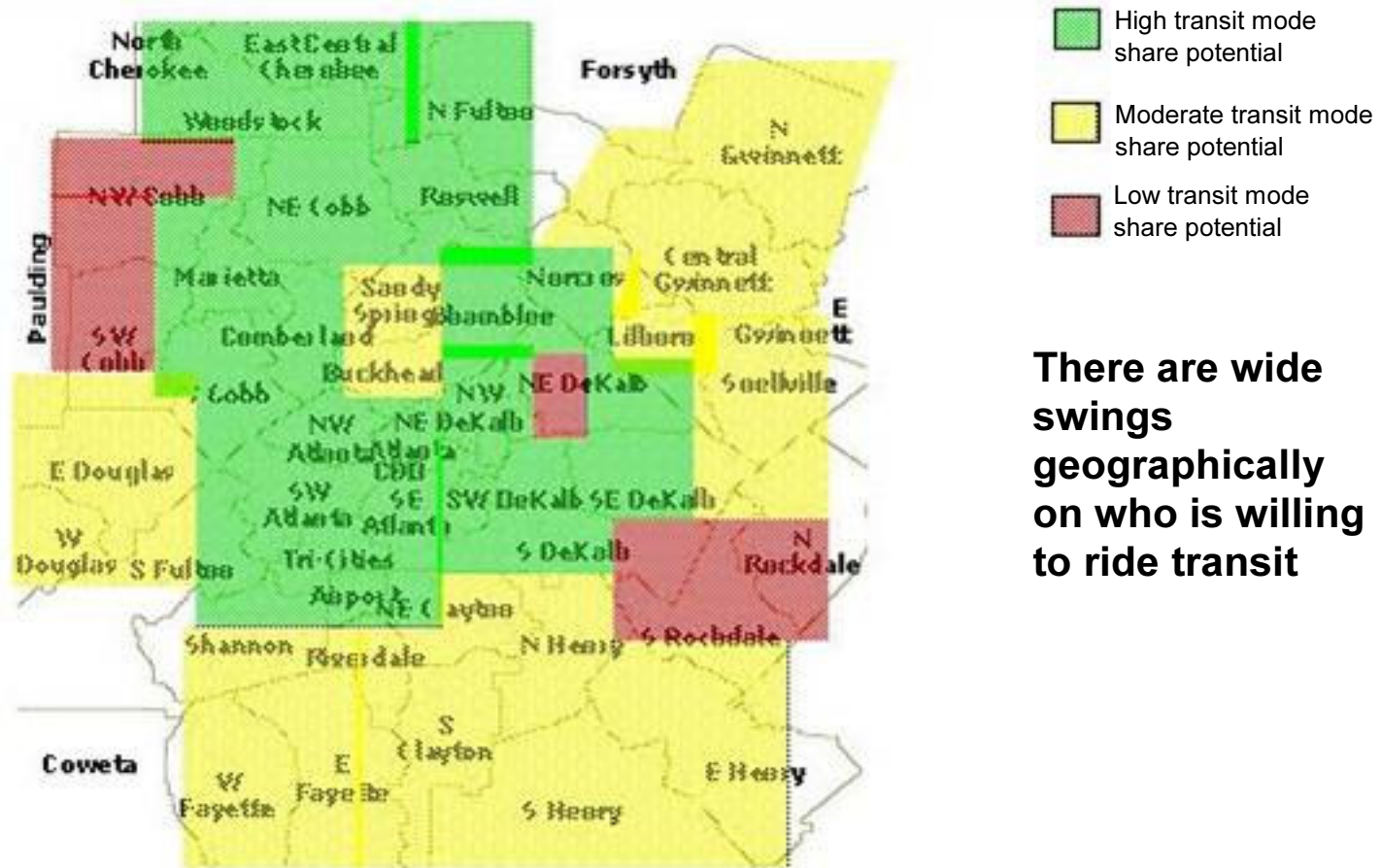
NOT THIS

Bus /
coach /
express
bus



It is critical that we do not mistake Flex Trolley for how some cities employ Bus Rapid Transit, using standard buses or over-the-road coaches ¹²

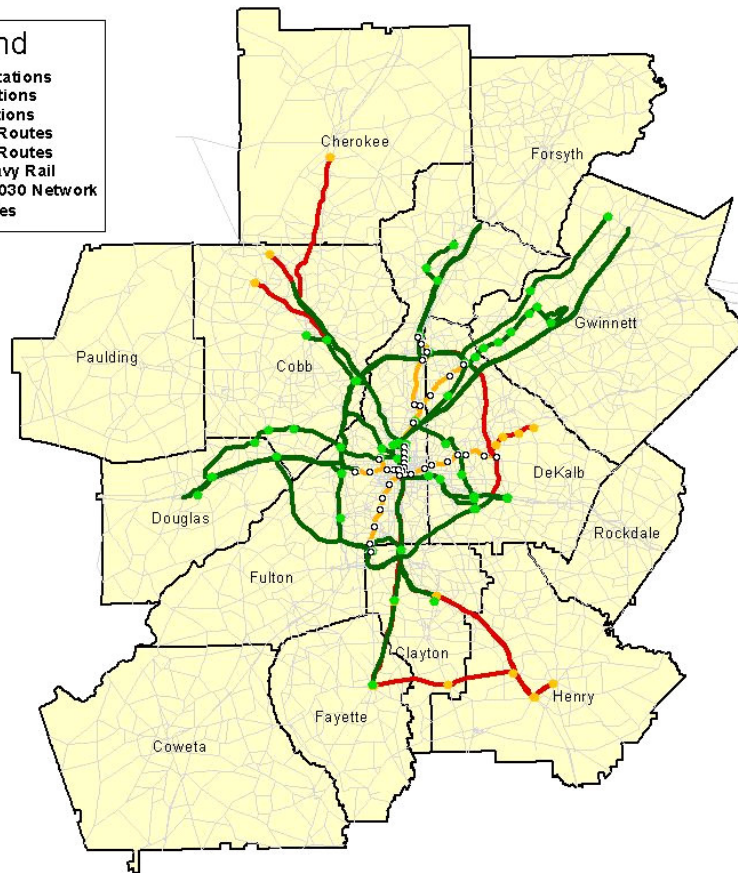
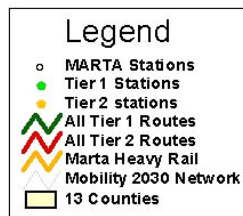
THIS IS WHERE THE COMMUTERS WHO WILL RIDE TRANSIT LIVE



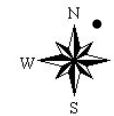
There are wide swings geographically on who is willing to ride transit

Note: Key origination zones identified based on geography

WE USED THIS TYPE OF METHODOLOGY, AND PRIORITY FLEX TROLLEY ROUTES EMERGED*



- 79% of all home-to-work trips served
- 18 of 19 regional activity centers will be served by this transit network
- Includes 280 miles of service along freeways and major parallel arterials
- Connects to existing MARTA heavy rail and utilizes it where appropriate



Improved ridership, cut costs, and improved traffic congestion


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* Commuter rail, express bus, and local bus service not shown

FOLLOWING A NEW APPROACH REAPED BIG REWARDS

We made progress on a number of key metrics*

1. Commuting ridership increased 75%
2. Total ridership increased 65%
3. Costs cut by 10%
4. Traffic delays cut by 12%**

- 
- **What is key here is that we tackled the problem in a new way – proved it was possible – and it makes a big difference in performance**
 - **GRTA, ARC, and others should leverage our work, and take it to the next level**

* As compared with Mobility 2030 Aspiration Plan

** Of the 11 most congested trip pairs examined



Tier 1 Network Cost Estimate

- Flex Trolley delivers a lower annual cost per rider than Light Rail and the cost of the roadways required to serve the number of riders.

	Flex Trolley	Light Rail	Roadways
Capital cost/ (annual capital based on 20 yrs)	\$7.6B - \$9.9B (\$382M/yr - \$494 M/yr)	\$16.9B (\$845M/yr)	\$22.2B (\$1.1B/yr)
Daily Ridership	151K	137K	N/A
Annual Operating Cost	\$553M	\$940M	Negligible
Annual Cost per Rider or per Person	\$22.13 - \$24.80	\$44.45	\$29.91

- Transit capital costs are based on GRTA cost estimation methodology.
- Roadway cost is based on GDOT roadway unit cost guide.

**Supply-Side Planning
vs.
Demand-Driven Planning**

San Diego: Household Density

Households per Acre

Low:

Under 1.60
1.60 - 2.44
2.45 - 4.58

Medium:

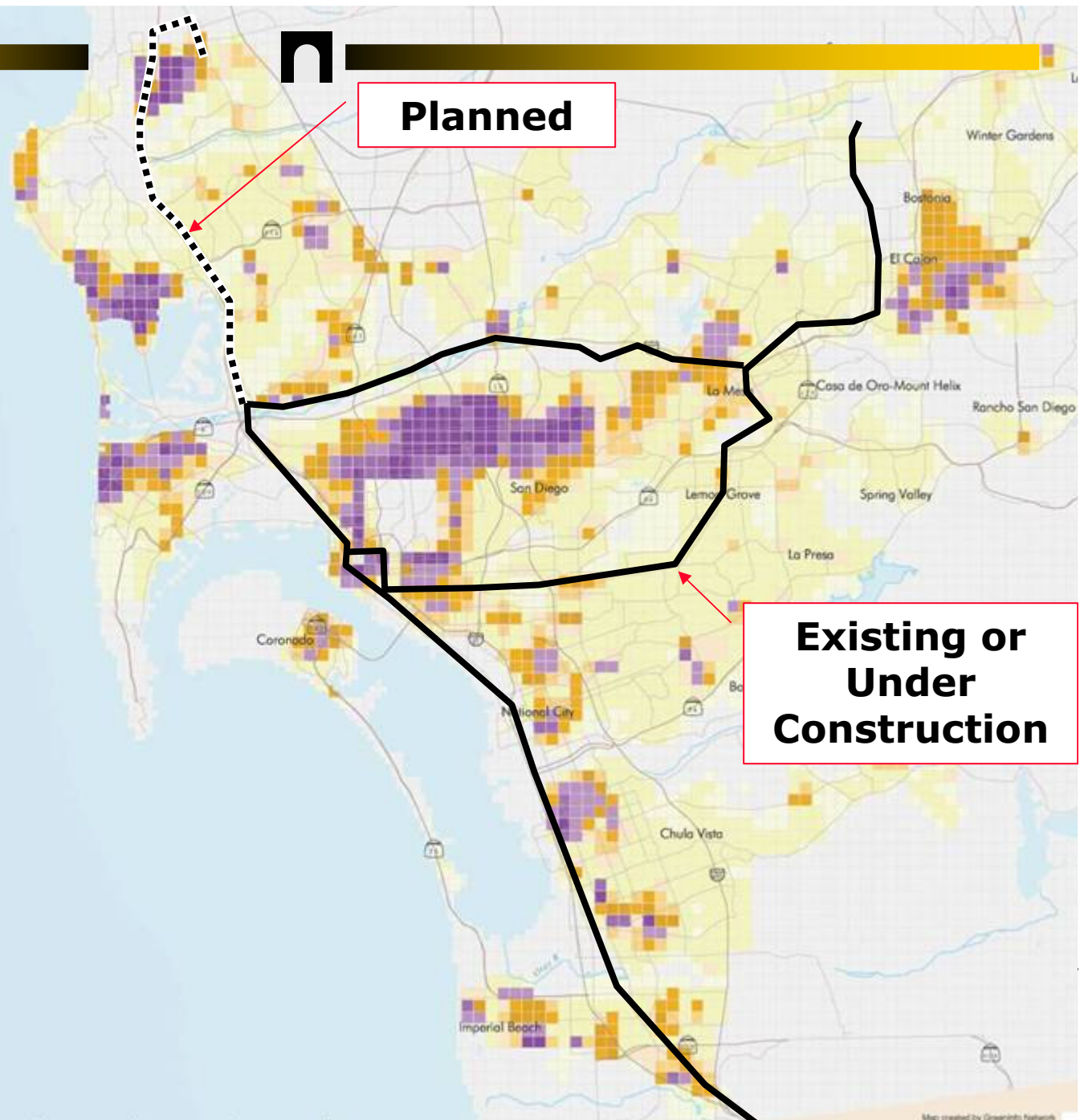
4.59 - 5.12
5.13 - 5.70
5.71 - 6.56
6.57 - 7.59

High:

7.60 - 9.45
9.46 - 12.73
12.74 - 27.66

Method:

Housing Unit Density per 40 square acre grid was calculated using Census 2000 block group data. First, each block group was assigned the total number of housing units contained in their area. Secondly, a 40 acre grid was created to cover western San Diego County. Next, an intersect was run to distributed the number of housing units evenly within each block group, (an equal distribution of housing was assumed across all block groups). The intersect was then compiled to summarize the total number of housing units contained within the area of each 40 acre grid cell. Lastly, the total number of housing units for each grid cell was divided by 40 acres to assign a housing unit density.



Mid-City San Diego

The logical comparison of Curitiba with San Diego is the “Showcase” corridor through Mid-City and North Park—the region’s densest population center and an historic “growth corridor” in virtually all local plans. This map overlays an outline (to scale) of the city of San Francisco on top of a household density map of Mid-City to give an idea of the size of this zone.

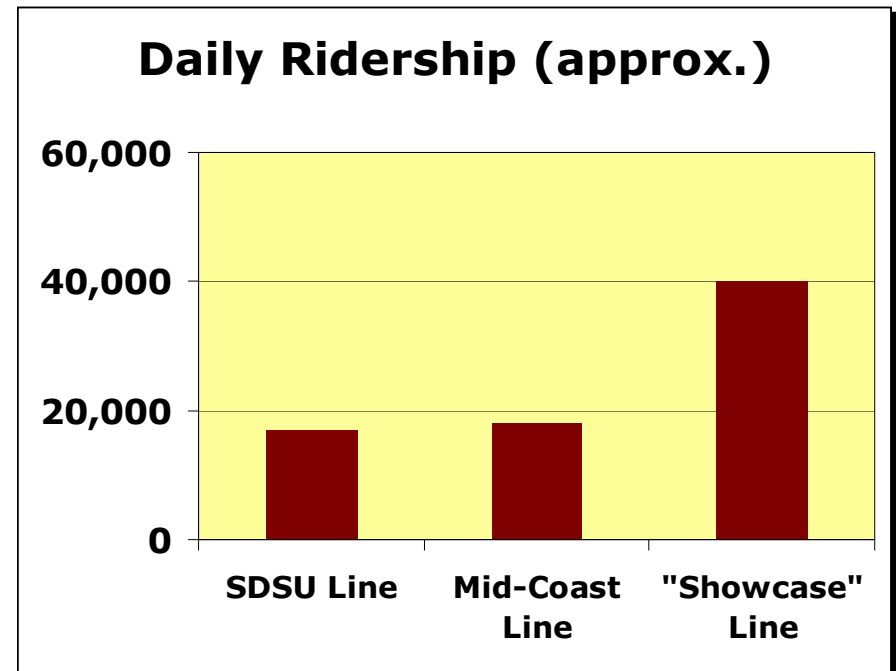
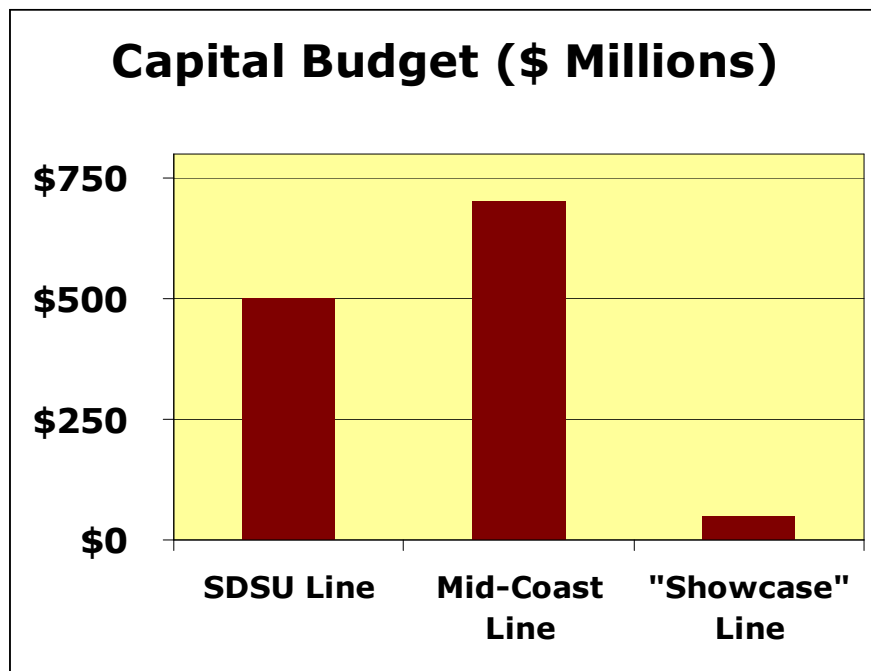


Mid-City "Showcase" Project





Comparative Capital Budgets



A "demand-chasing" planning strategy, by identifying and exploiting potential *demand*, can achieve greater overall benefit for a region, even across demographics.

Lessons for Practice



Lesson for Practice #1

One Size Does *Not* Fit All...

**What it is that people
value in a trip varies widely
independent of demographic
factors.**



Lesson for Practice #2

When You Assume...

A person's socio-economic or demographic classification does not dictate their values or choices, and you need to *learn* what is important to your target markets.

Lesson for Practice #3

Attitudes Underlie Choice

Attitudes alone don't drive choice so much as they drive what it is that people *value*. It is these values that drive choice.

Attitudes let you find the people who value what it is you can do for them.

Lesson for Practice #4

Focus on Demand

The question should never be “where can we extend a line.” It needs to be “where can our investments produce the greatest value”—and to get there, you need *systematic* frameworks.