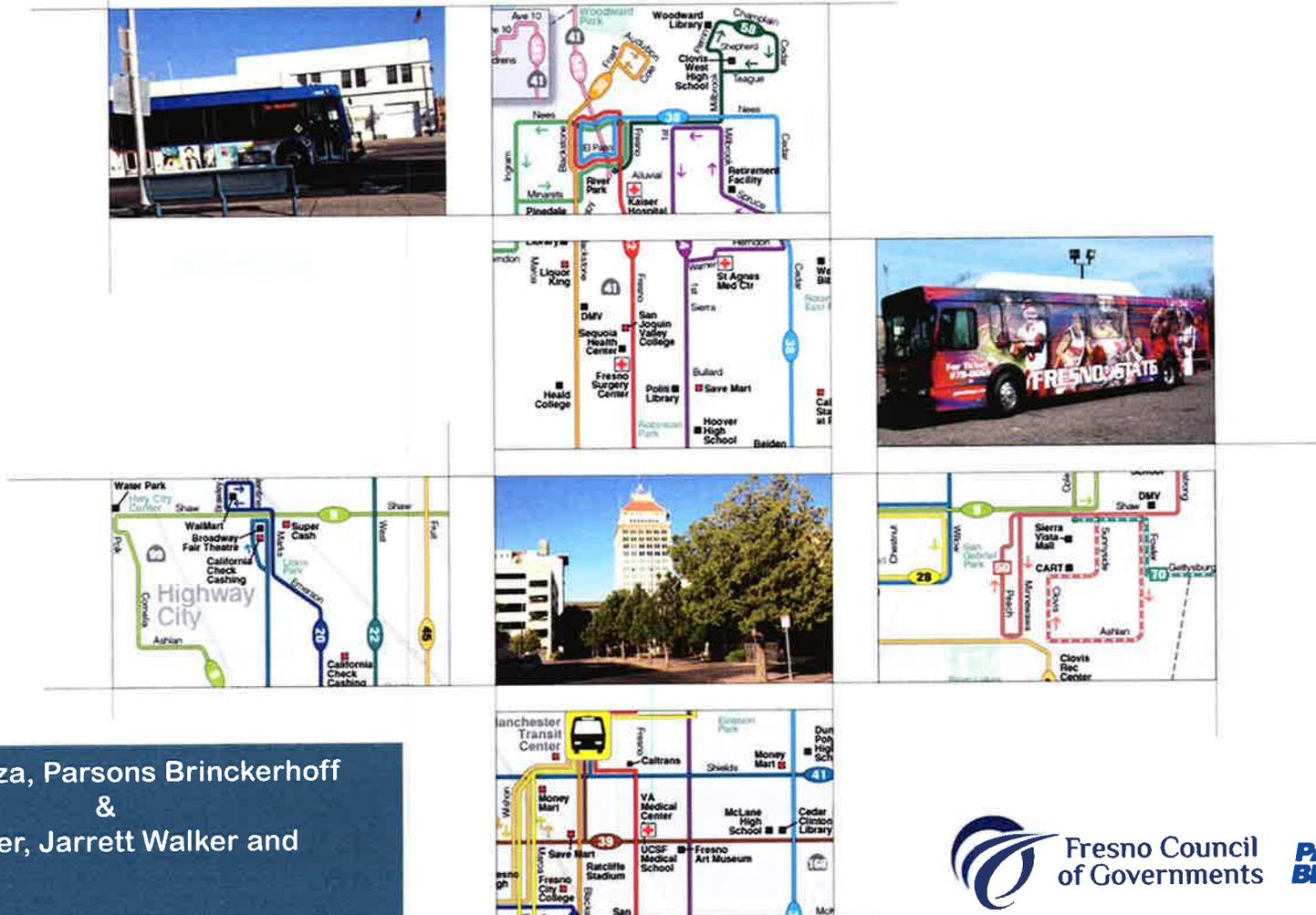


RECEIVED DURING COUNCIL MEETING
ON 5-22-2014 FOR ITEM 2-A:
Workshop of Public Transportation
Planning and Policy.

Fresno-Clovis Metropolitan Area Public Transportation Strategic Service Evaluation



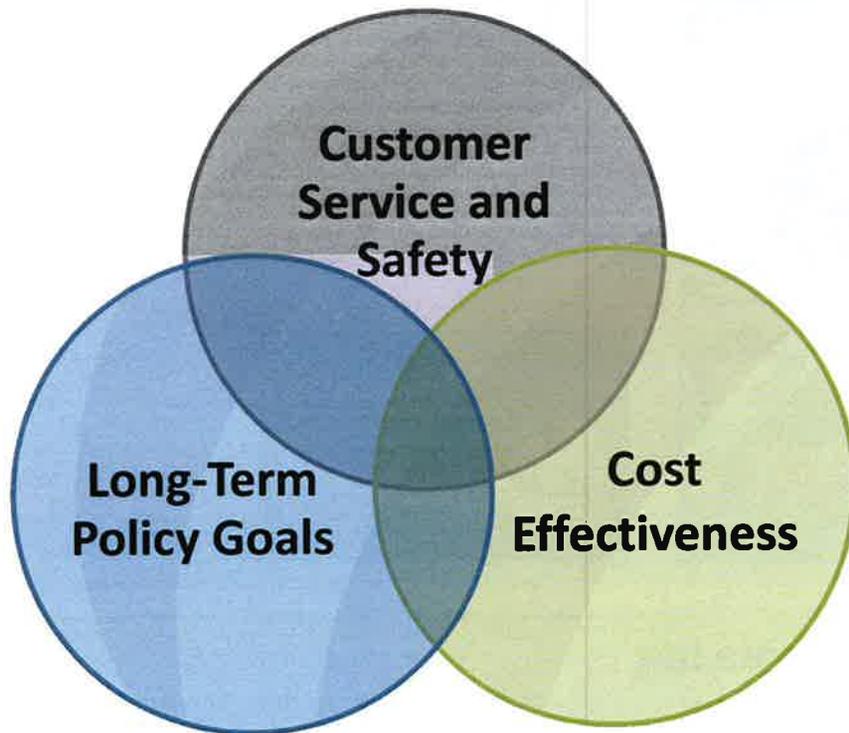
Tony Mendoza, Parsons Brinckerhoff
&
Jarrett Walker, Jarrett Walker and
Associates

May 22, 2014



Project Objectives

Balance the three transit considerations....



...by addressing the following goals:

- Assess and implement plan to improve services
- Develop linkages to major trip generators
- Increase productivity
- Increase cost-effectiveness

Process

System Assessment – Fall 2013

Network Alternatives and Preferred Alternative – Now – July 2014

Implementation Plan - August/September 2014

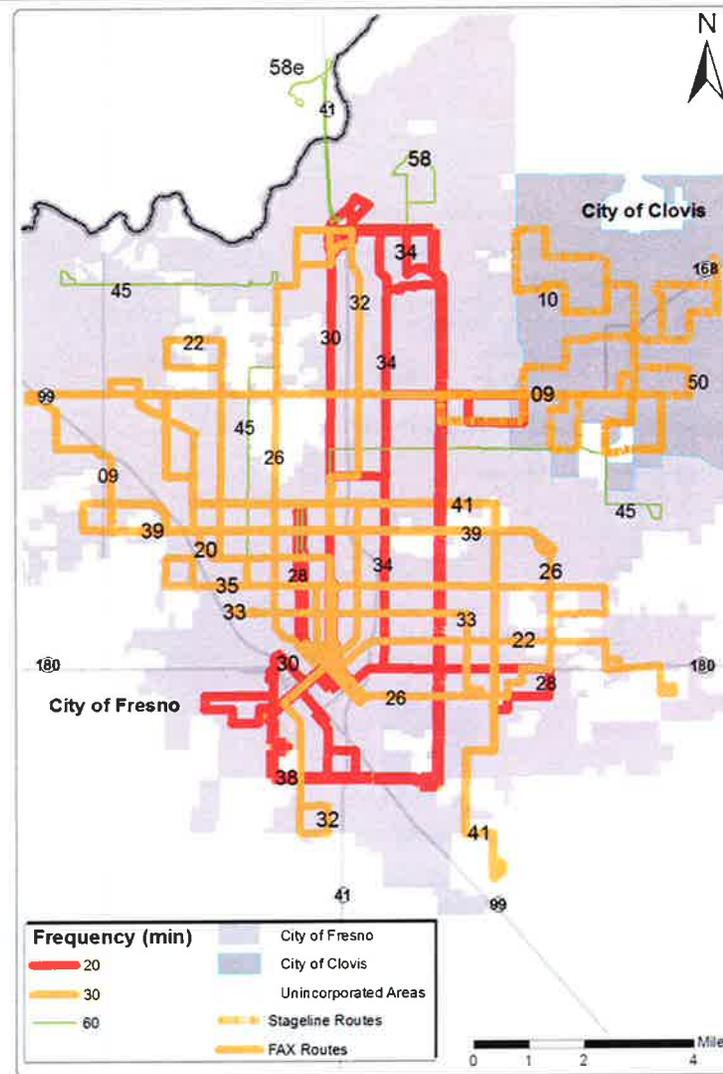
Final Report – September 2014





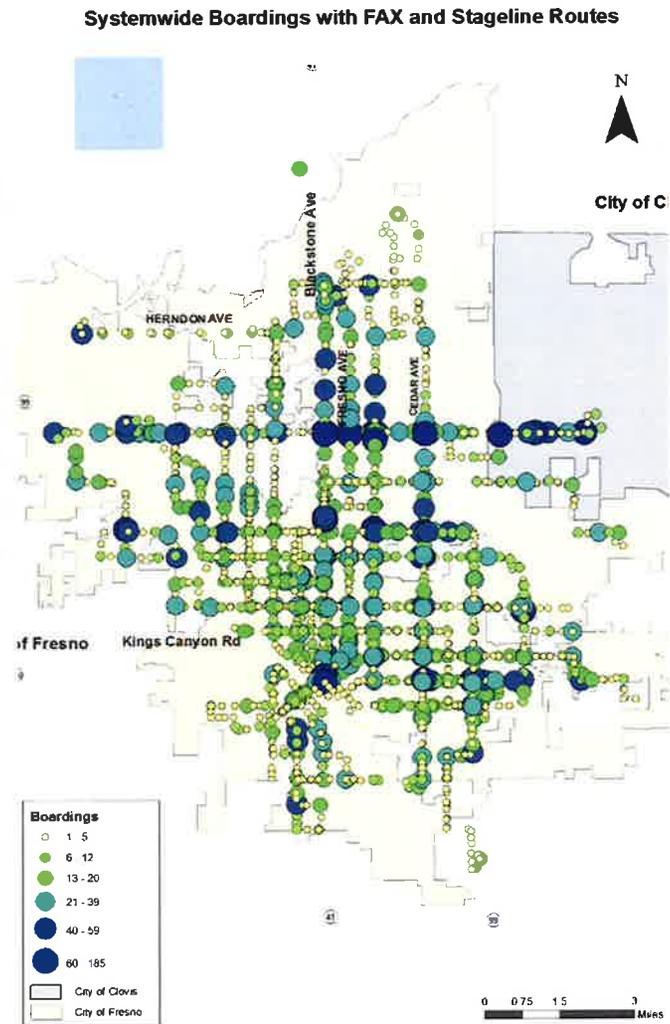
SYSTEM PERFORMANCE

Frequency of current service

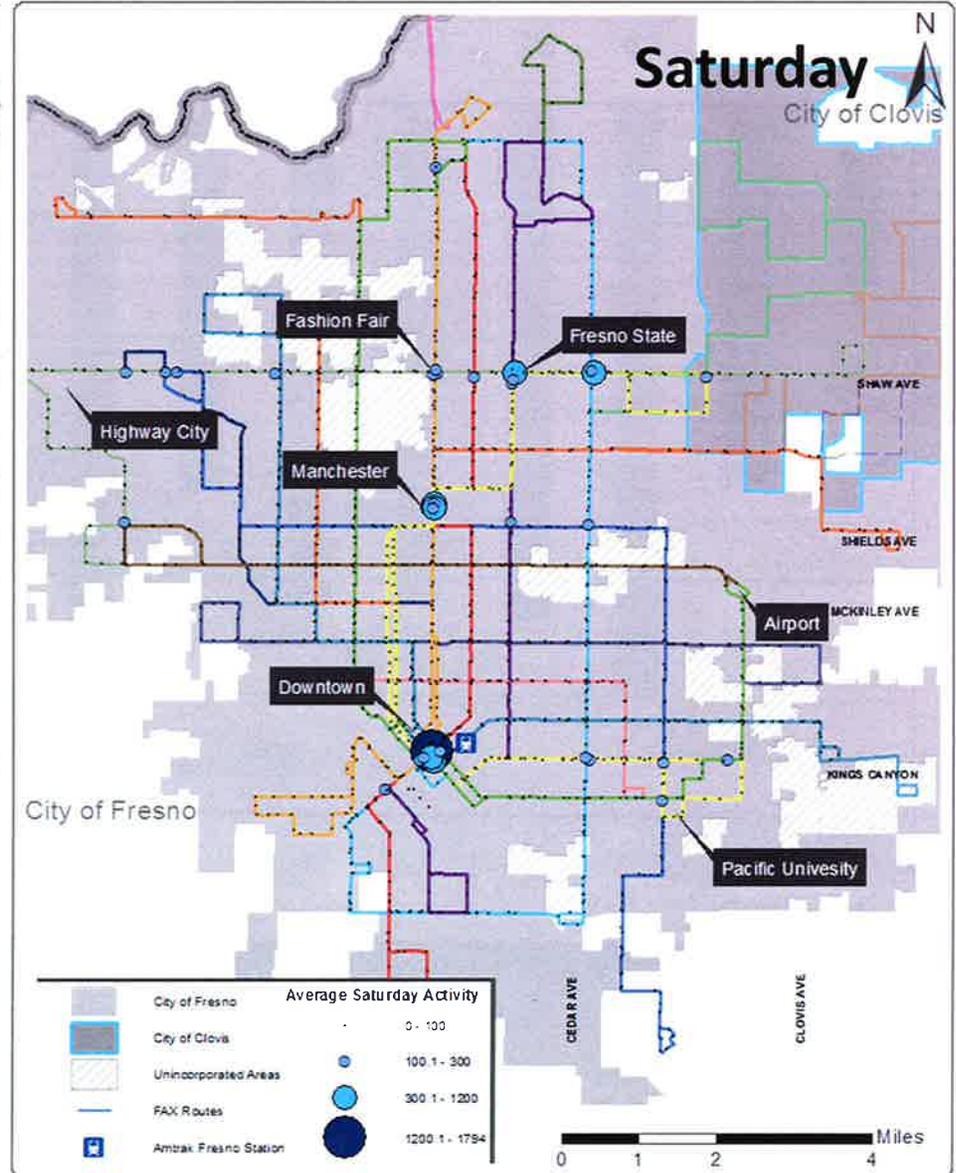
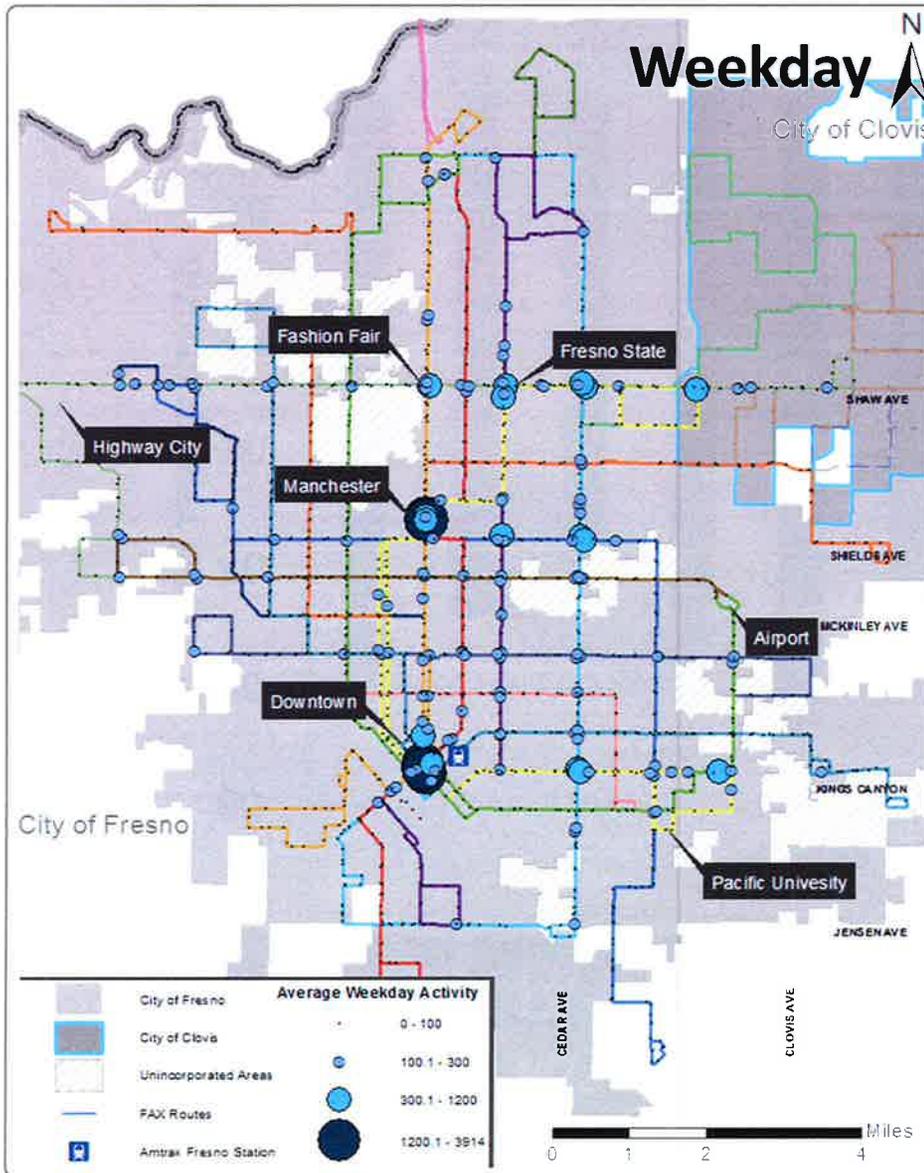


We know where the ridership is

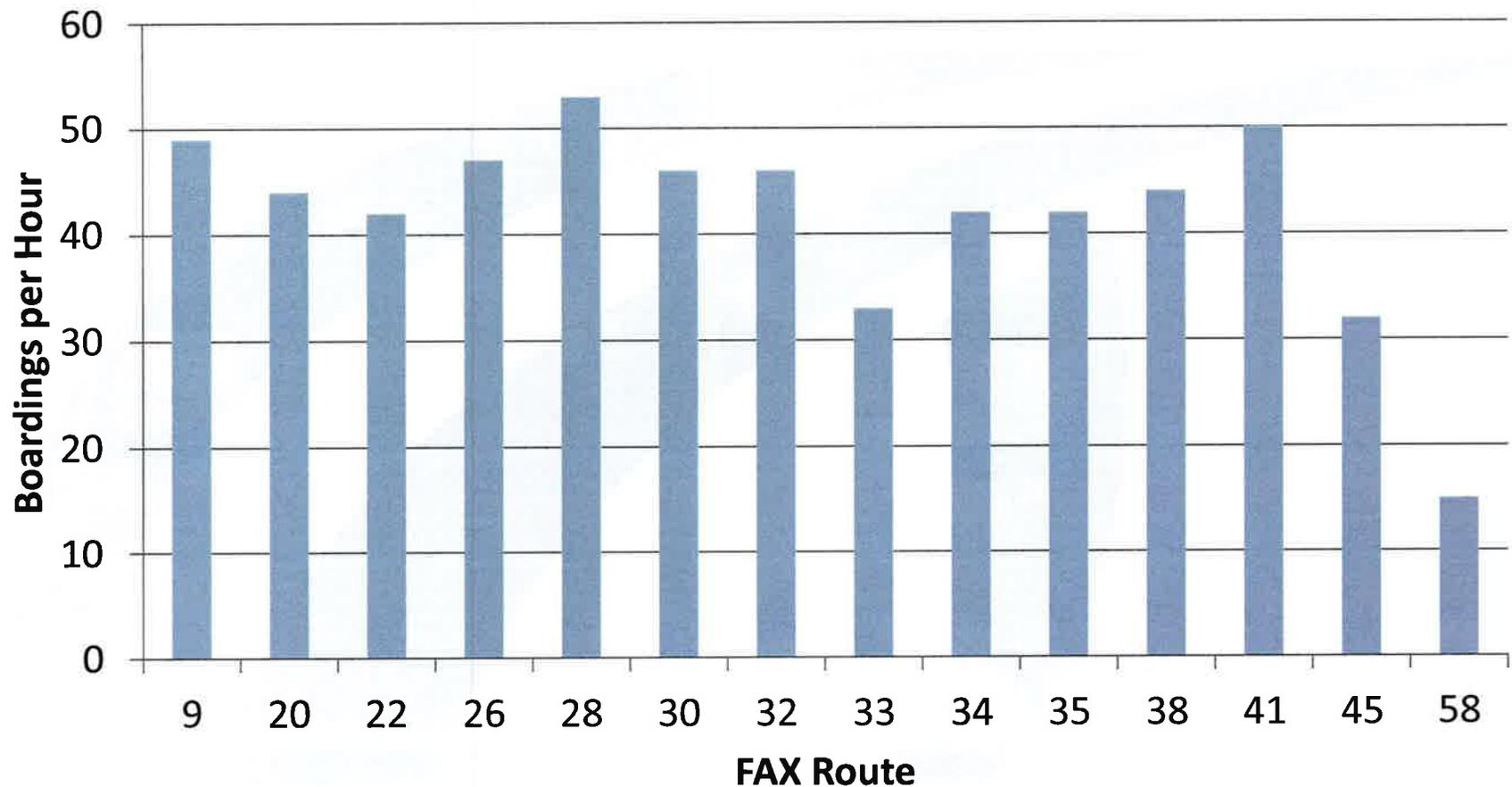
- Stop-by-stop ridership data



Ridership, weekday vs Sat.

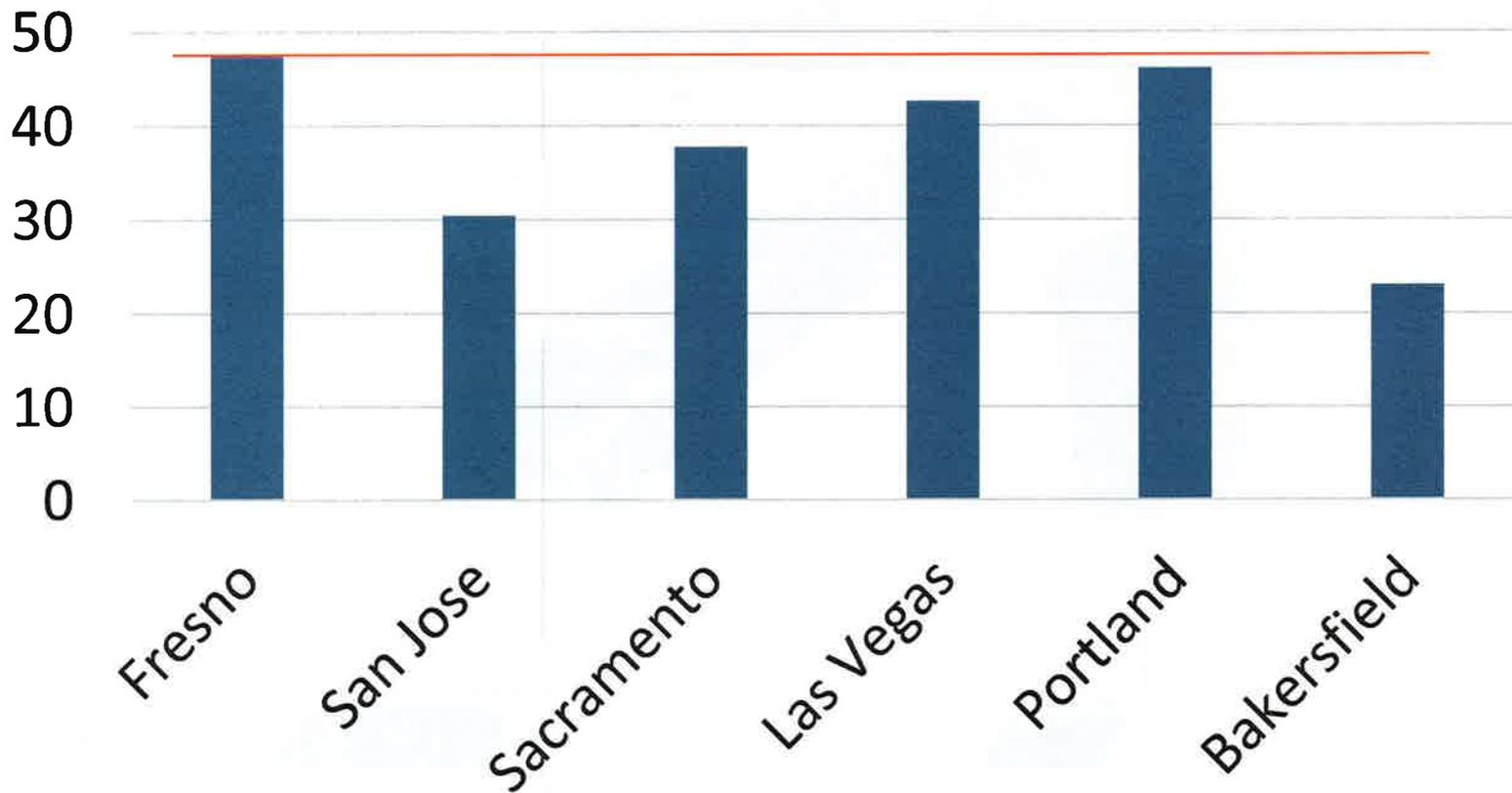


Route Productivity: Boardings per hour

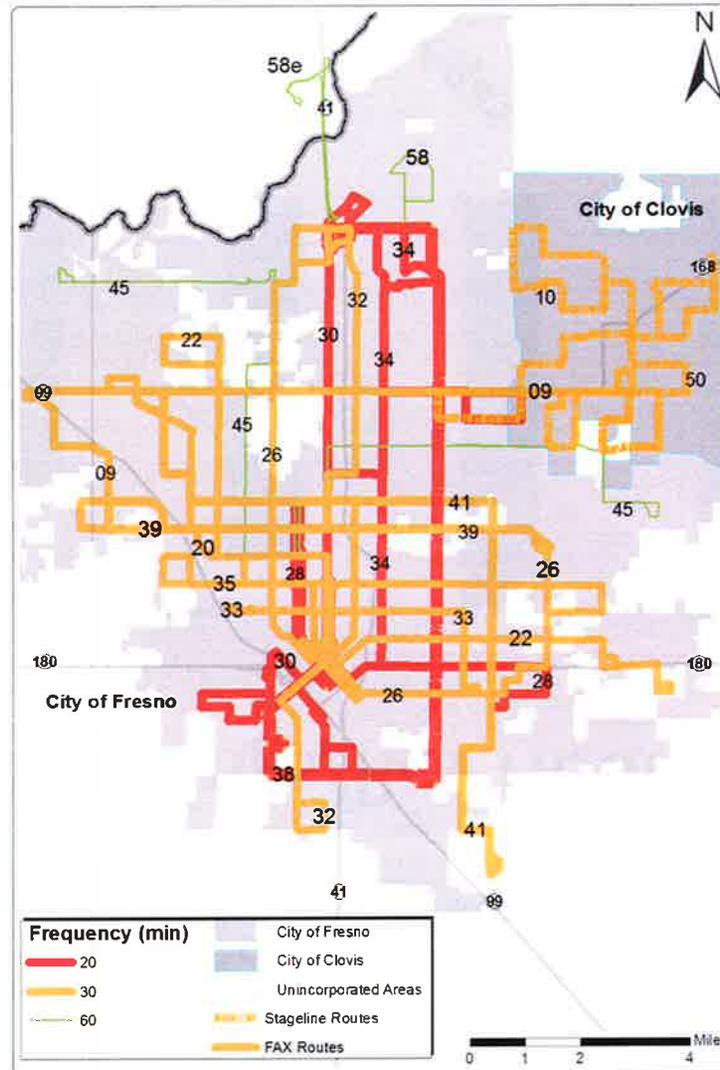


FAX is incredibly productive

Boardings/Rev Hour



Unproductive routes = thin green lines



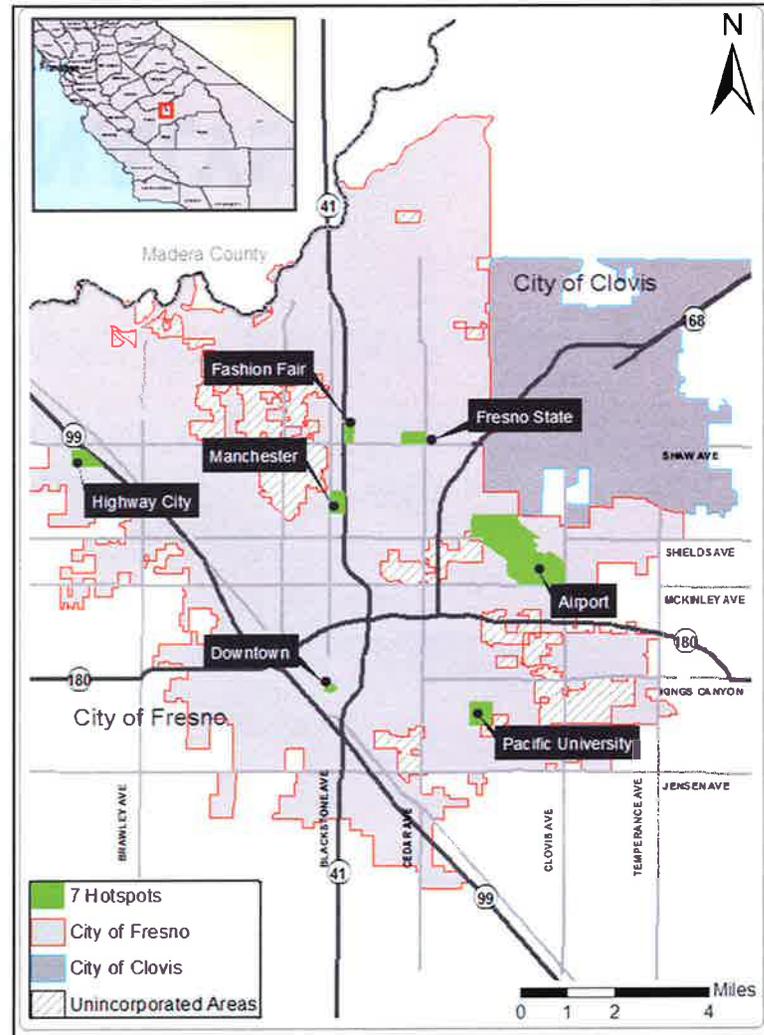


TRAVEL MARKET ANALYSIS



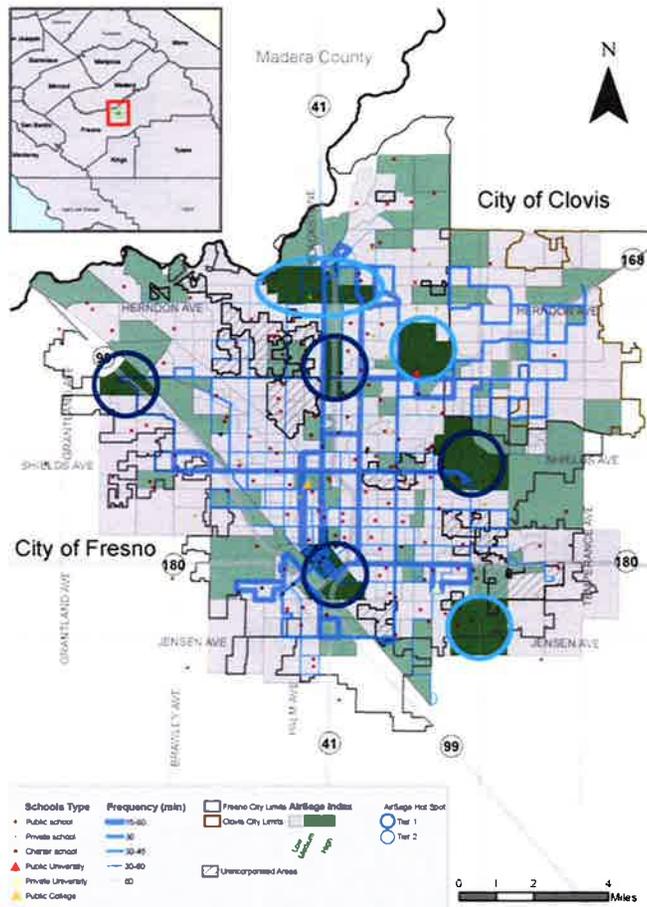
Major Origins/Destinations

1. Downtown
2. Fresno Pacific University
3. Manchester Transit Center
4. California State University, Fresno
5. Highway City residential area
6. Fashion Fair Mall/Fresno-Shaw
7. Fresno Yosemite Airport

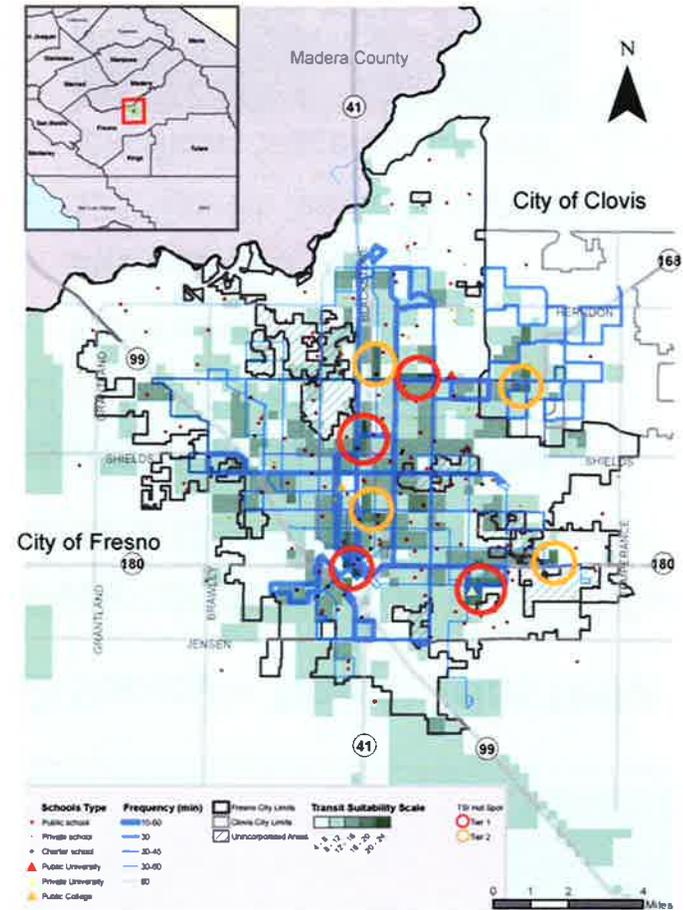


Travel Markets

Anonymous Cell Phone Data



Transit Suitability Index (TSI)



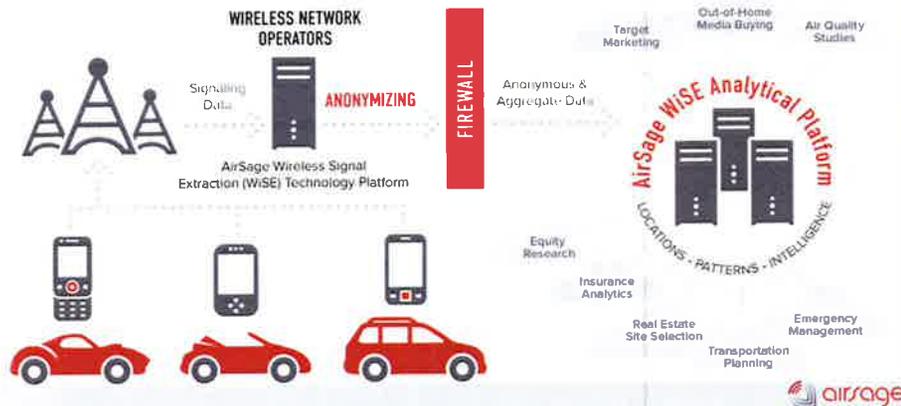
Overview of data

Anonymous Cell Phone Data – All Modes

- Tracks travel patterns for all modes
- Data collected in Fall 2013

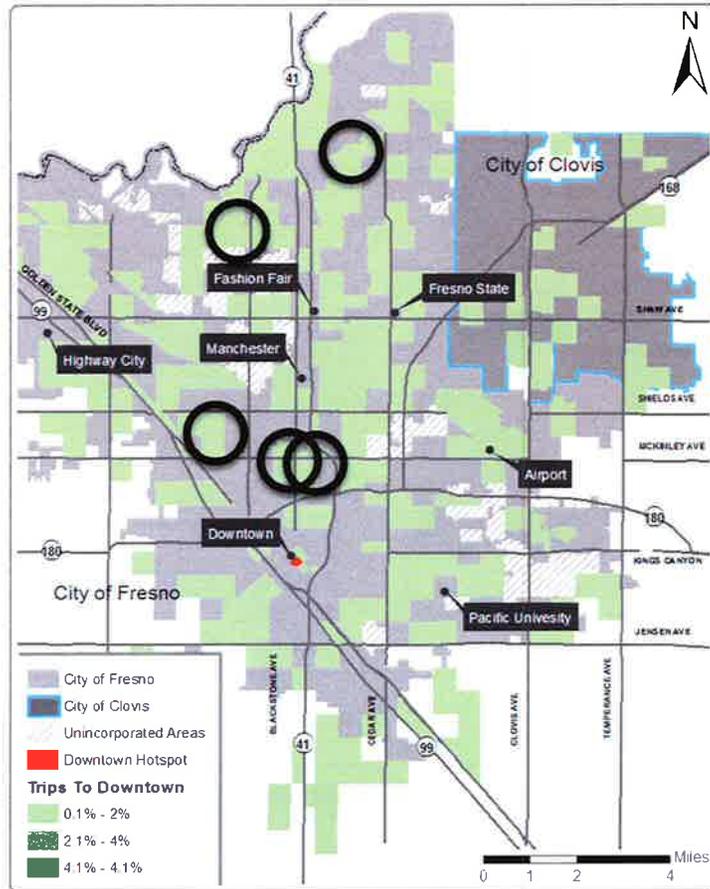
O-D Survey – Transit Trips Only

- Survey conducted on Fall 2013 on FAX and Stageline buses
- Results from 3,730 surveys included in analysis:
 - 3,379 weekday surveys
 - 351 weekend surveys
 - 125 Spanish language surveys
 - 154 Clovis Stageline surveys

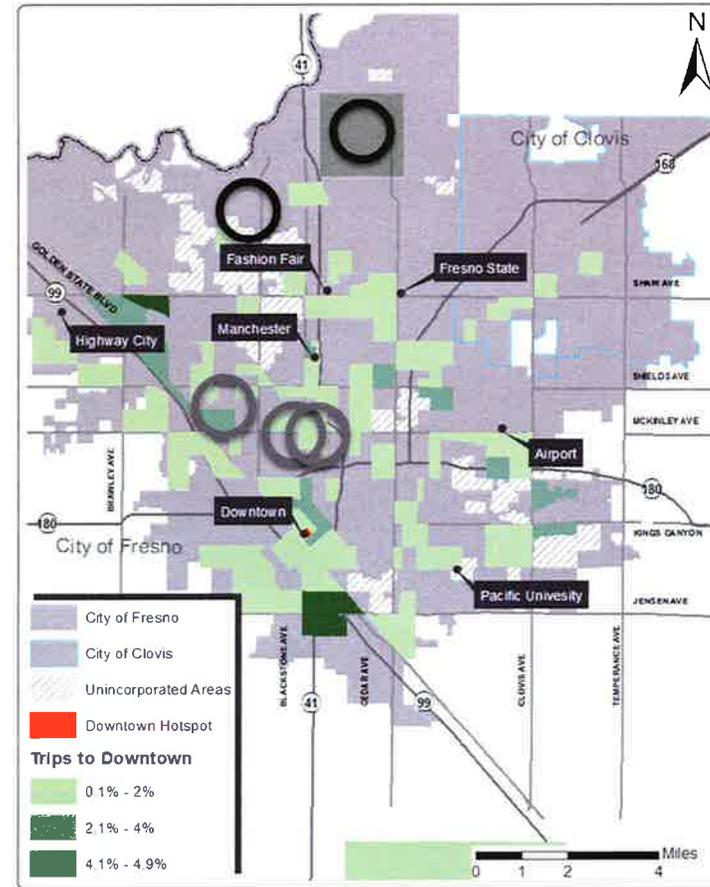


Trips to Downtown

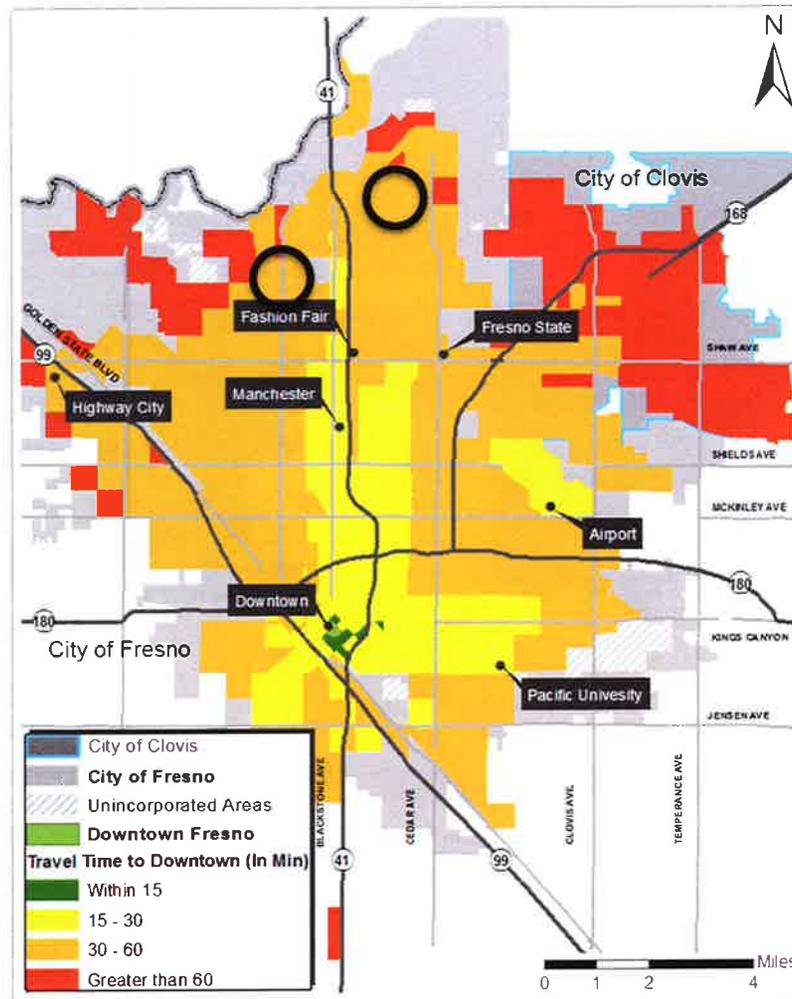
Anonymous Cell Phone Data – All Modes



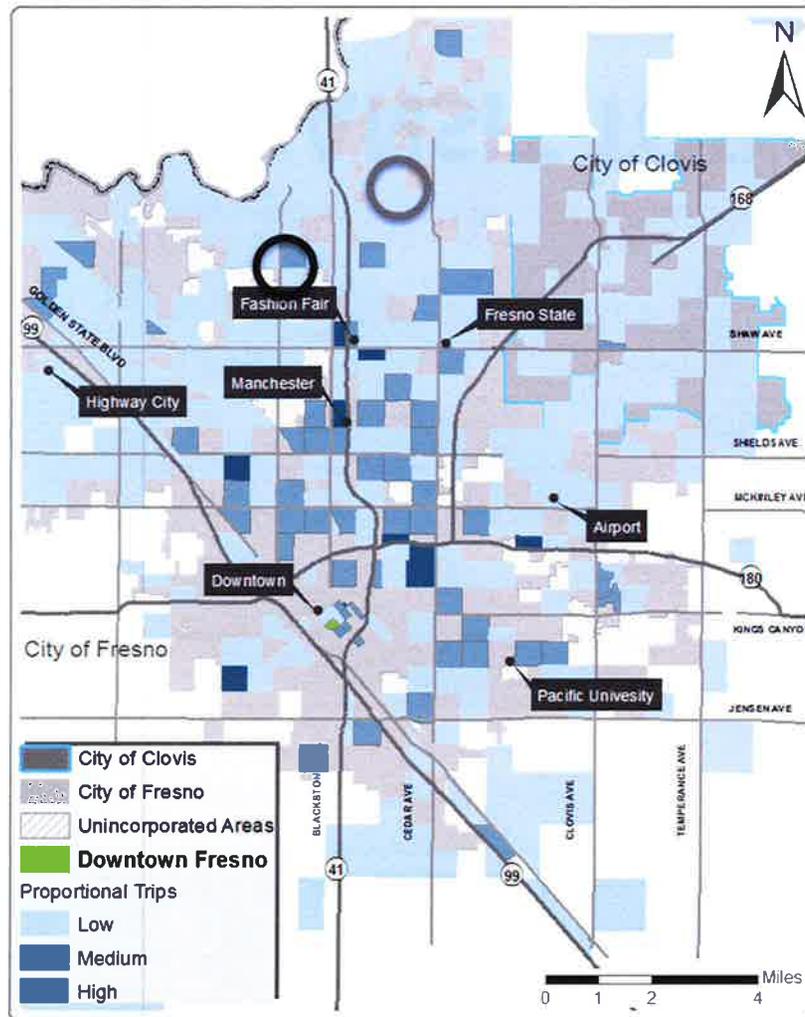
O-D Survey – Transit Trips Only



Current transit travel times to Downtown



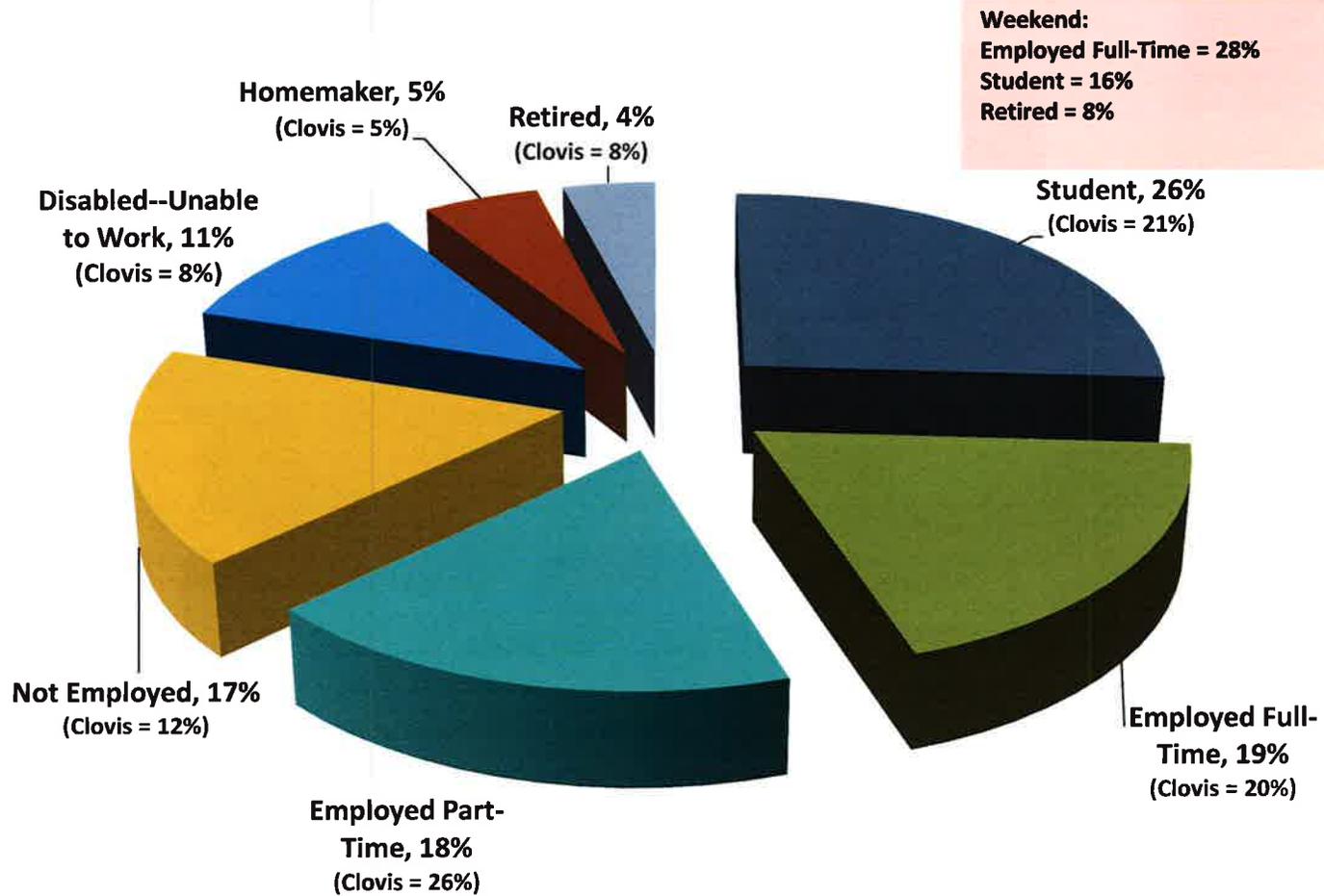
Trips from No Vehicle households to Downtown





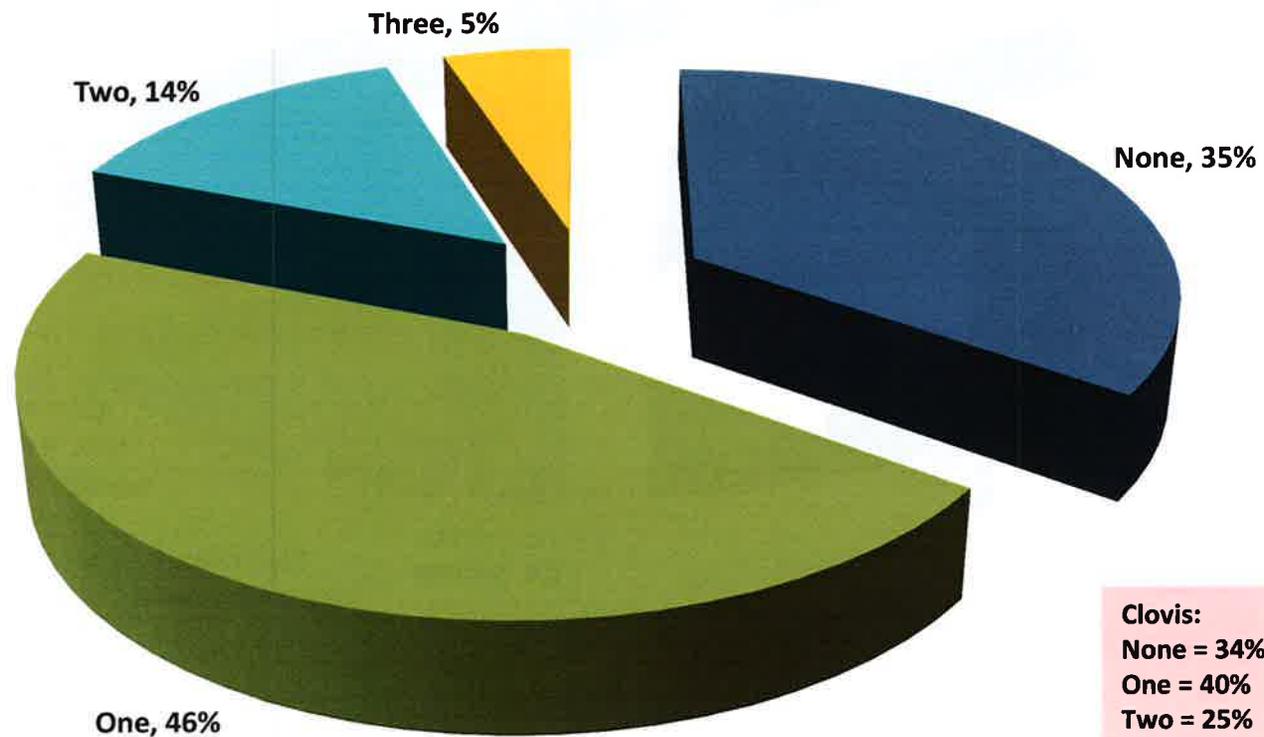
WHO RIDES TRANSIT TODAY?

Riders have many purposes



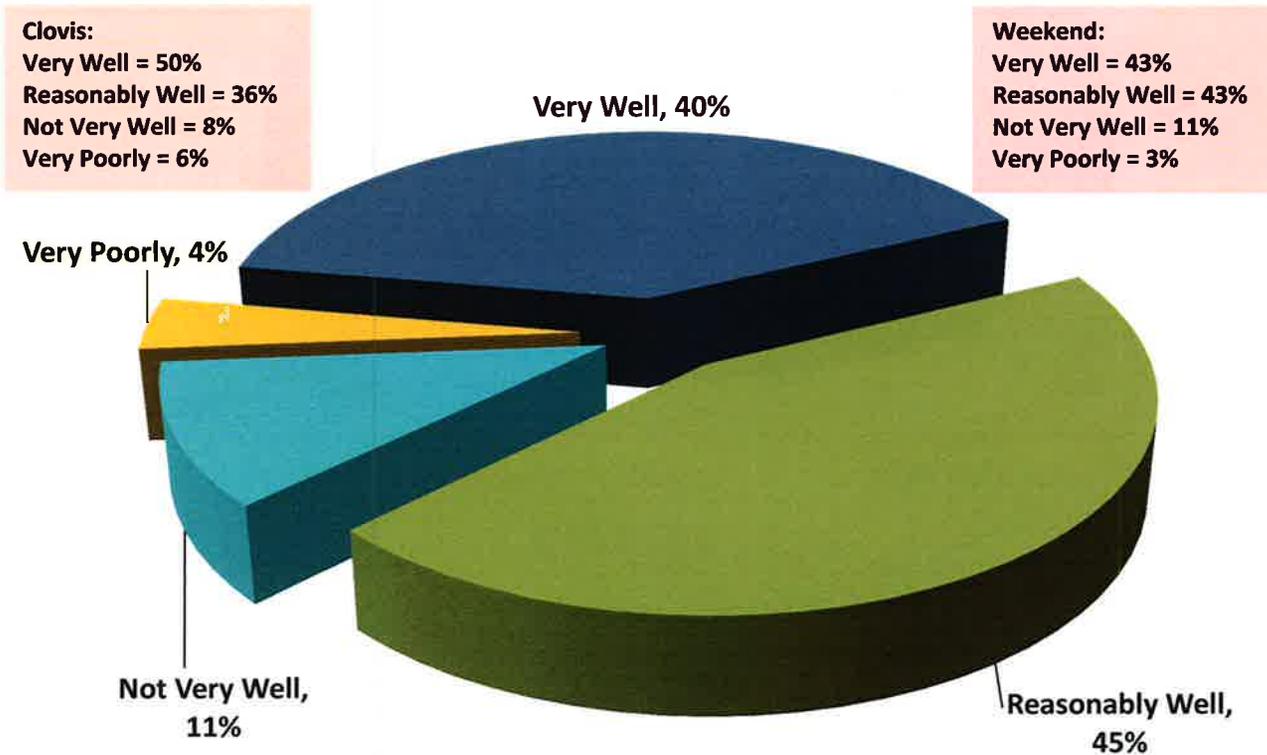
Transfers are inevitable features of an efficient network

Mean Number of Transfers --all bus riders = 0.89
Mean Number of Transfers---riders who transfer = 1.37

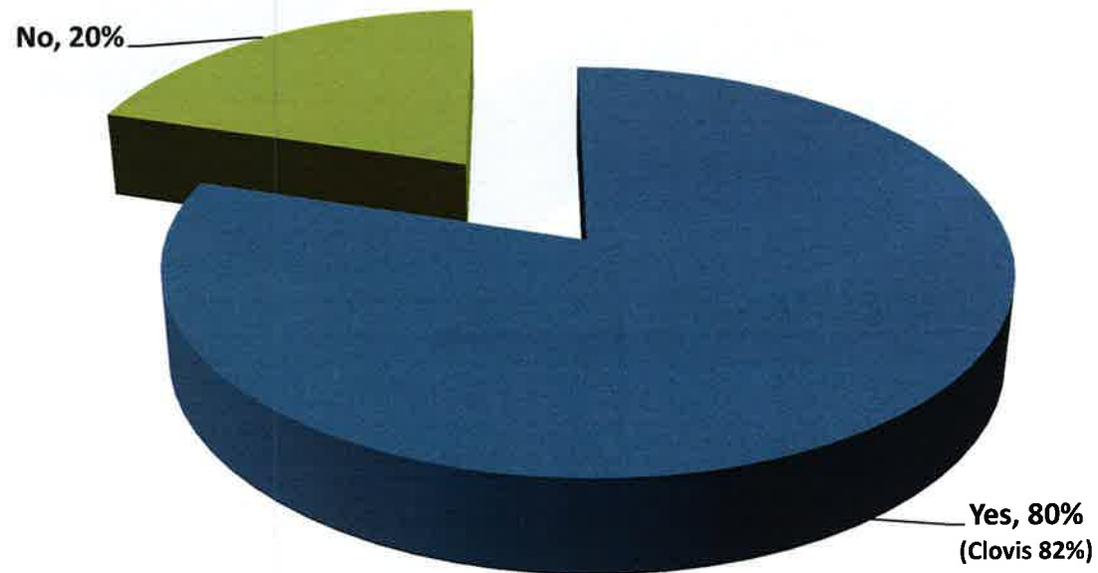


Clovis:
None = 34%
One = 40%
Two = 25%
Three = 1%

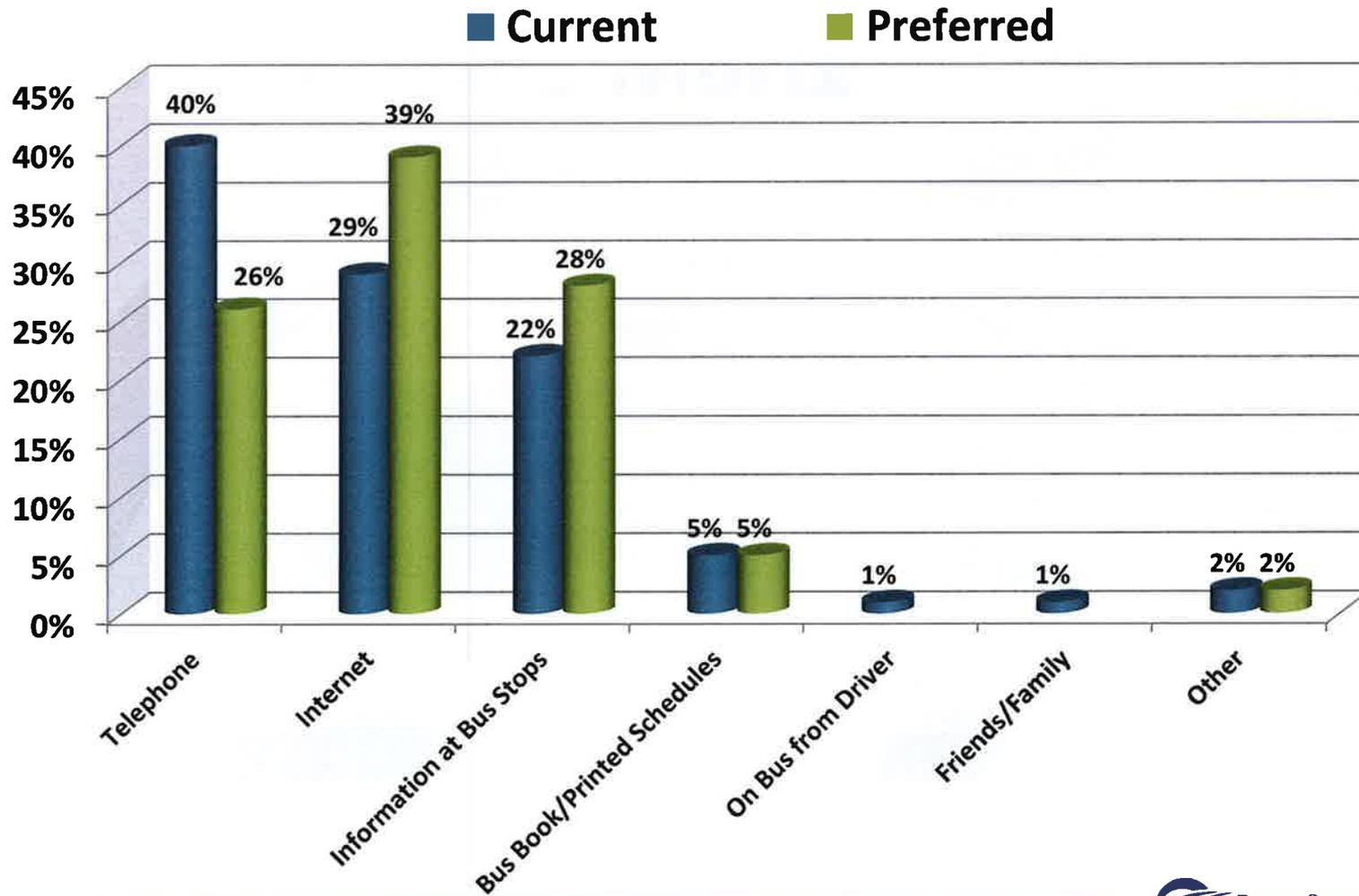
Existing riders are grateful, but they're also self-selected



Satisfied with trip time



Customer preference for receiving information





STAKEHOLDER INPUT

Interviews, surveys and meetings

- 2013 Outreach 30 stakeholder interviews:
 - Values asked about - Policies, efficiencies, safety & customer service
- October 2013, on-board survey:
 - 3,379 weekday surveys
 - 351 weekend surveys
- March Workshops:
 - Fresno State
 - Fresno City College



Themes from Stakeholders

Long-Term Policy Goals

- Encourage infill development downtown
- Assess developers a fee for increased service to new outlying areas
- Support fare increases to improve service, suggest raising fares on an annual basis
- Provide incentive to take the bus

Cost-Effectiveness

- **Potential improve efficiencies**
- Better align service with high school and college students' travel patterns
- Improve night service for off-peak commuters, including night shift workers and students
- **Improve coverage -**
- Provide improved service to Southeast Fresno
- Revive Route 12, which looped around Southeast Fresno and served seniors

Customer Service and Safety

- Accommodate bicycles on buses
- Improve communication and better market service
- Consider safety of bus stop locations – example - Locate bus stops on Fresno State Campus.
- Communications for Hmong community
- Cleaner buses, friendlier and safer environment



NETWORK ALTERNATIVES



How to recognize a development pattern that supports high-ridership transit

Density

- How many people are going to and from the area around each bus stop?

Walkability

- Of these people, how many can walk to a bus stop, in their desired direction, safely and in reasonable distance?

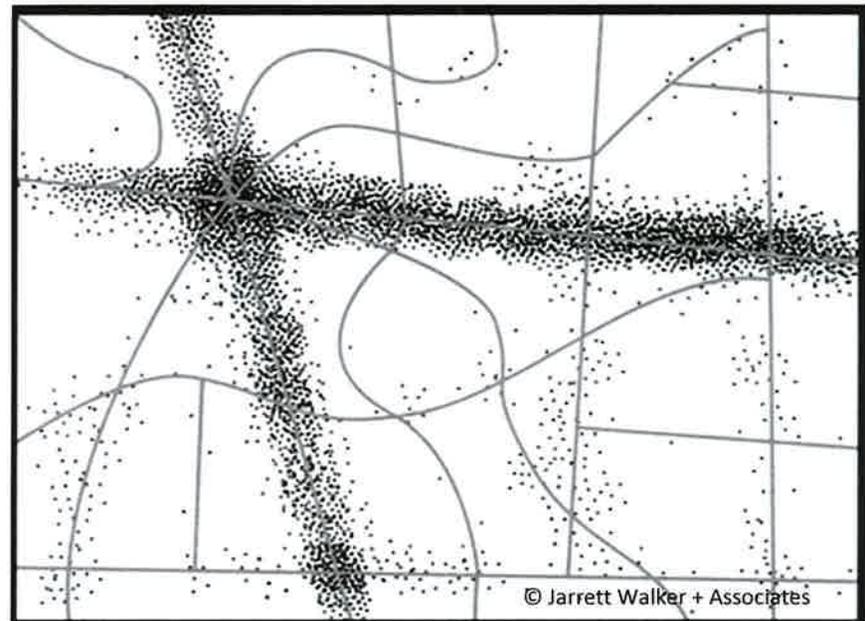
Linearity

- Can the bus follow a straight line that many people will find useful, or must it meander through an obstructed street pattern?

Ridership or Coverage?

Fictional Urban Area

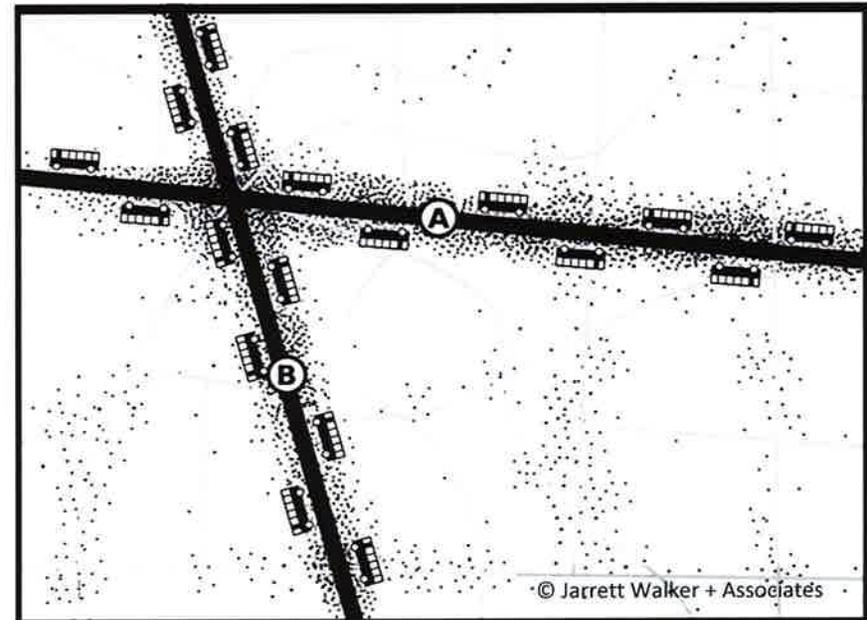
- 4 miles x 3 miles
- Dots = residents and jobs
- 18 buses



Ridership Goal

To maximize ridership you think like a business, *choosing which markets you will enter.*

The straight lines offer density, walkability, and an efficient transit path, so you focus frequent, attractive service there.



**Ridership
Network**

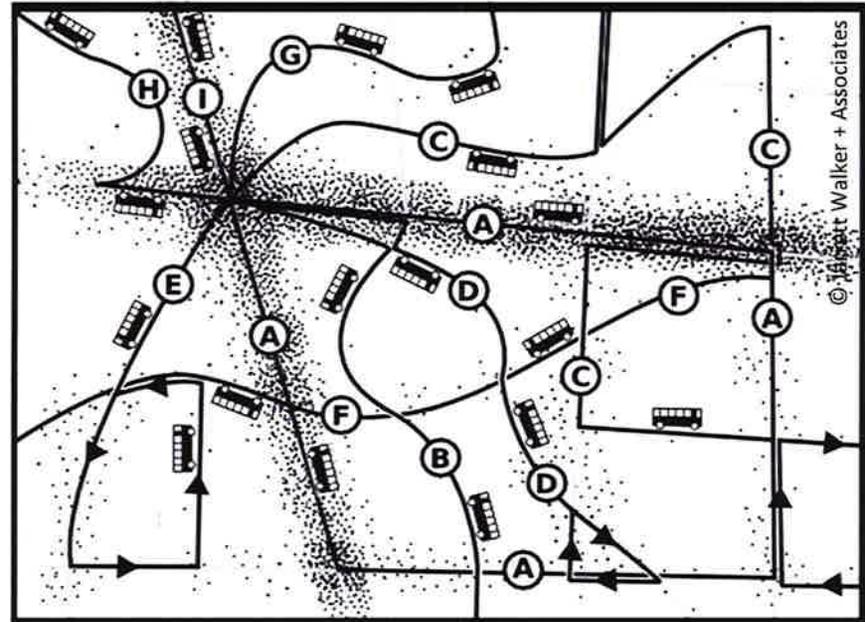
Performance Measure: *Productivity*

Productivity: Passengers per unit of service cost (high)
Operating cost per rider, subsidy per rider (low)

Coverage Goal

To maximize coverage, think like a government service. Try to serve everyone, *even those in expensive-to-serve places*.

The result is more routes covering everyone, but less frequency, more complexity, and lower ridership.

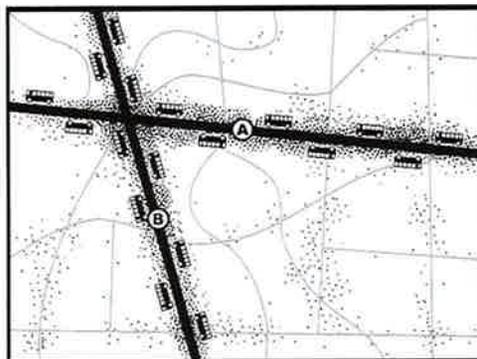


Coverage Network

Performance Measure: Availability

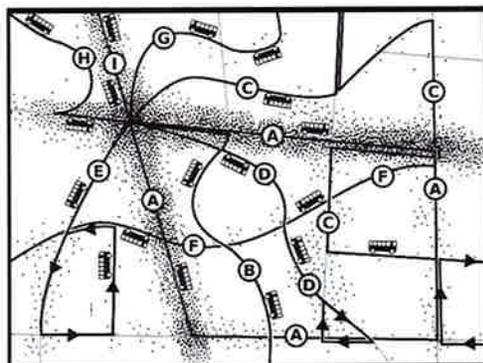
% of population and jobs that can walk to some all-day service

Both goals are important,
... but they lead opposite directions!



Ridership Goal

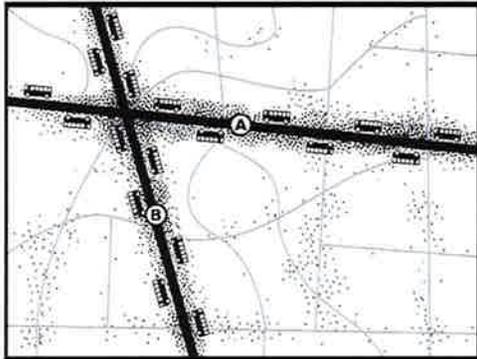
- “Think like a business.”
- Focus where ridership potential is highest.
- Support dense and walkable development.
- Max. competition with cars
- Maximum VMT reduction



Coverage Goal

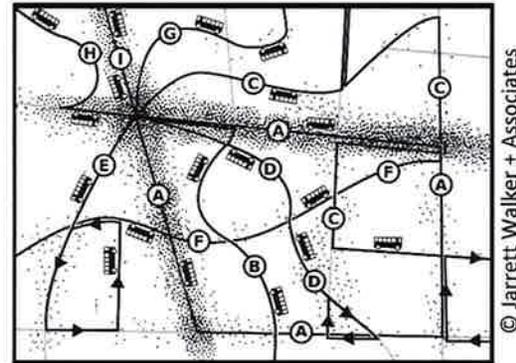
- “Access for all”
- Services for hard-to-serve areas, despite low ridership.
- Support suburban low-density development.
- Lifeline access for everyone.

Ridership or Coverage?



Ridership Goal

- “Think like a business.”
- Focus where ridership potential is highest.
- Support dense and walkable development.
- Max. competition with cars
- Maximum VMT reduction



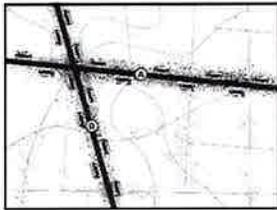
Coverage Goal

- “Access for all”
- Services for hard-to-serve areas, despite low ridership.
- Support suburban low-density development.
- Lifeline access for everyone.

So transit agencies must find their point on the spectrum

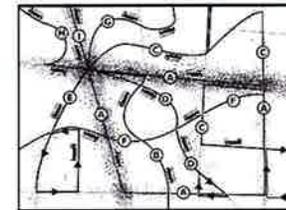
Ridership Goal

Think like a business!



Coverage Goal

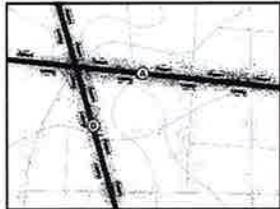
Access for everyone!



So transit agencies must find their point on the spectrum

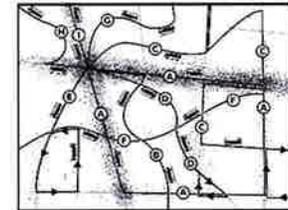
Ridership Goal

Think like a business!



Coverage Goal

Access for everyone!



An ideal policy: "Devote ___% of our budget to the Ridership Goal, and the rest to the Coverage Goal"



Ridership Scenario

Existing System

Coverage Scenario

100%

90%

85%

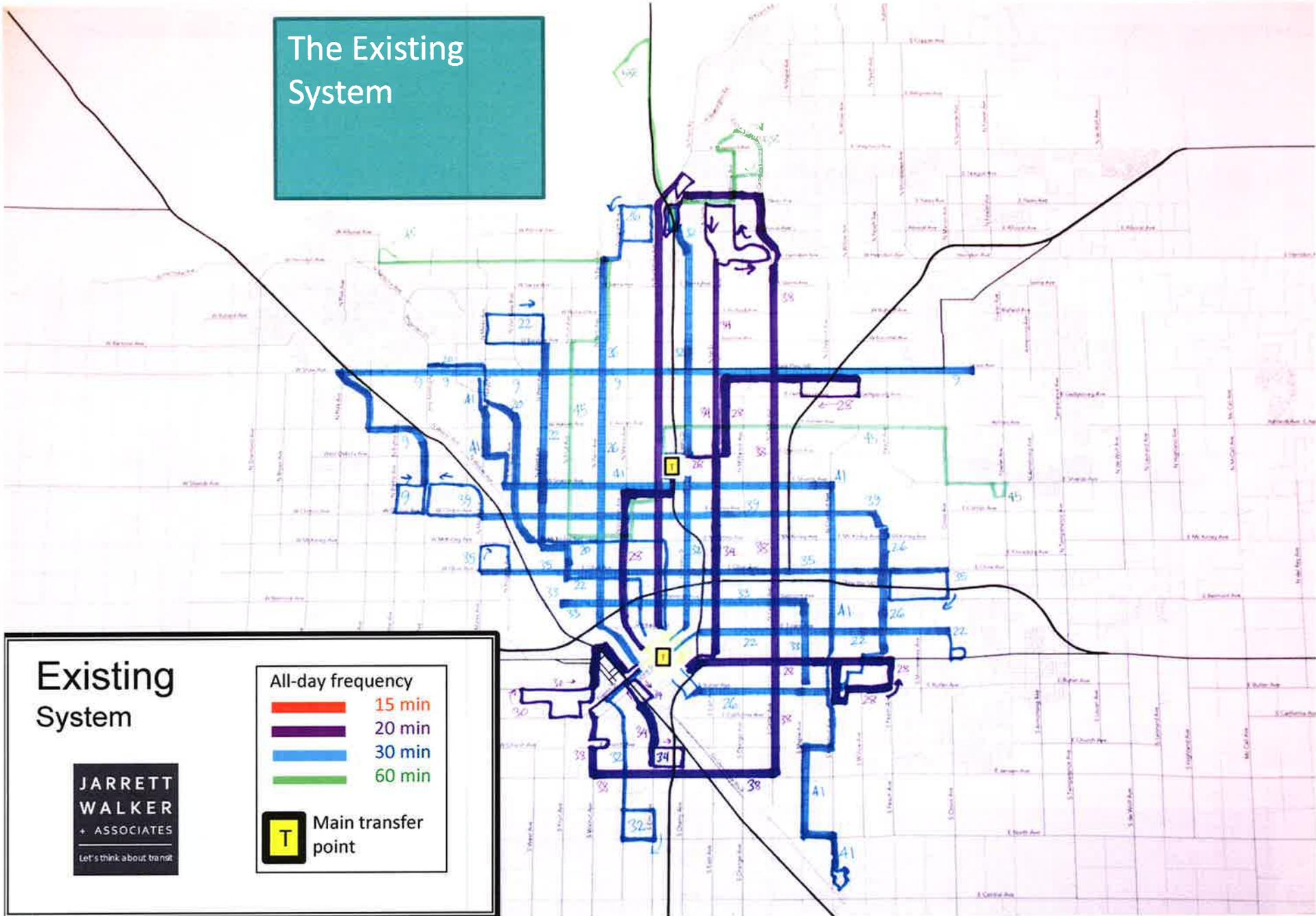
% of service deployed for maximum ridership



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The Existing System



Existing System

JARRETT WALKER
+ ASSOCIATES
Let's think about transit

- All-day frequency
- 15 min
 - 20 min
 - 30 min
 - 60 min

T Main transfer point

Coverage Scenario. New routes added in response to customer and stakeholder requests.

Expanded service area means *lower frequency*.
 Routes along Cedar, Jensen and First cut from 20 min to 30 min.
So lower ridership

Service extended to:
 Highway City
 E Church St
 Far NE Dial-a-Ride
 Far SE Dial-a-Ride

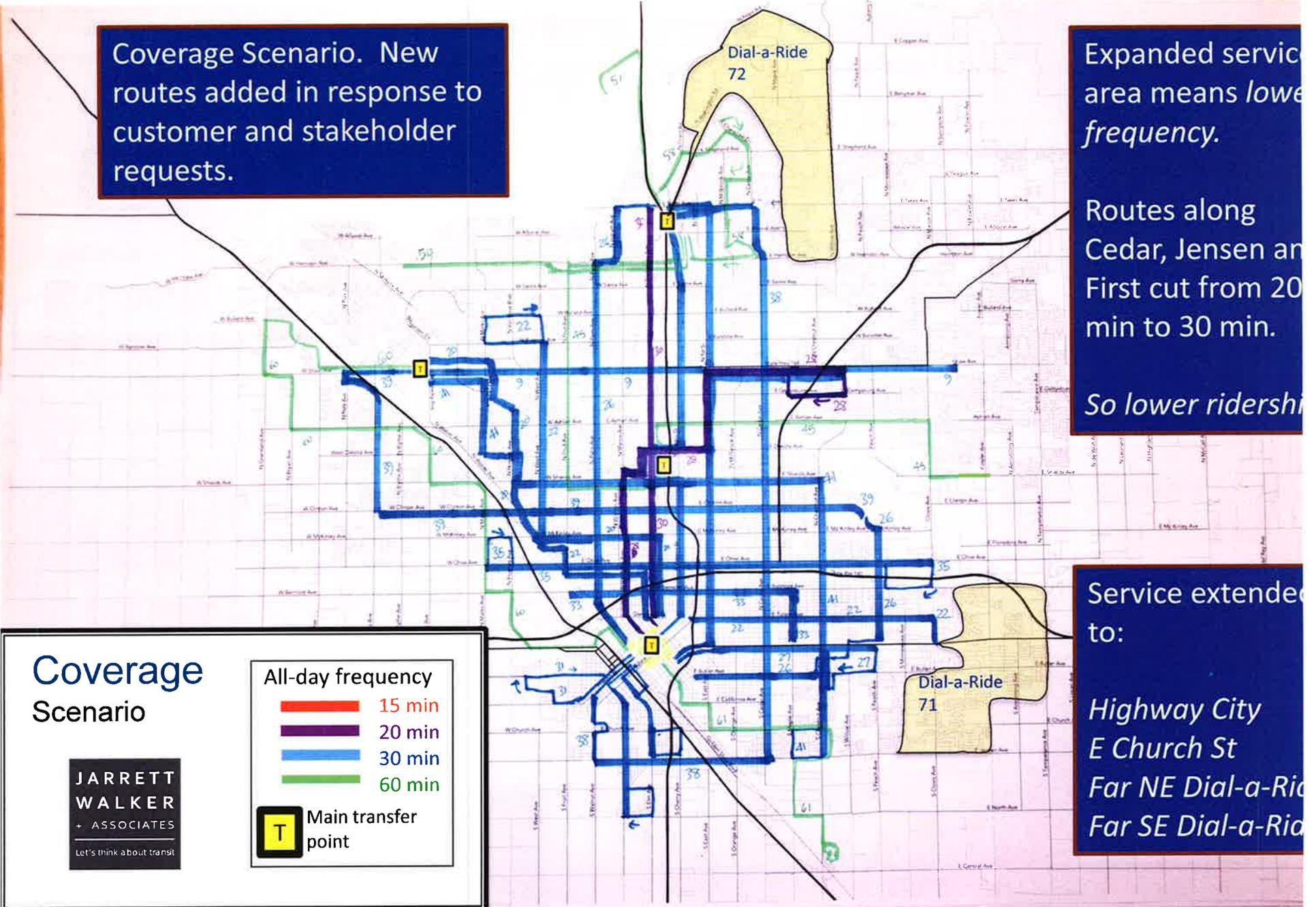
Coverage Scenario

JARRETT WALKER + ASSOCIATES
 Let's think about transit

All-day frequency

- 15 min (Red line)
- 20 min (Purple line)
- 30 min (Blue line)
- 60 min (Green line)

T Main transfer point



Ridership scenario. Frequency concentrated on busiest corridors. 15-minute service means that bus is always coming soon.

This scenario also:

- extends service on red lines to midnight,
- On weekends, runs red lines every 15 min for grid effect.

But it deletes ALL low ridership segments!

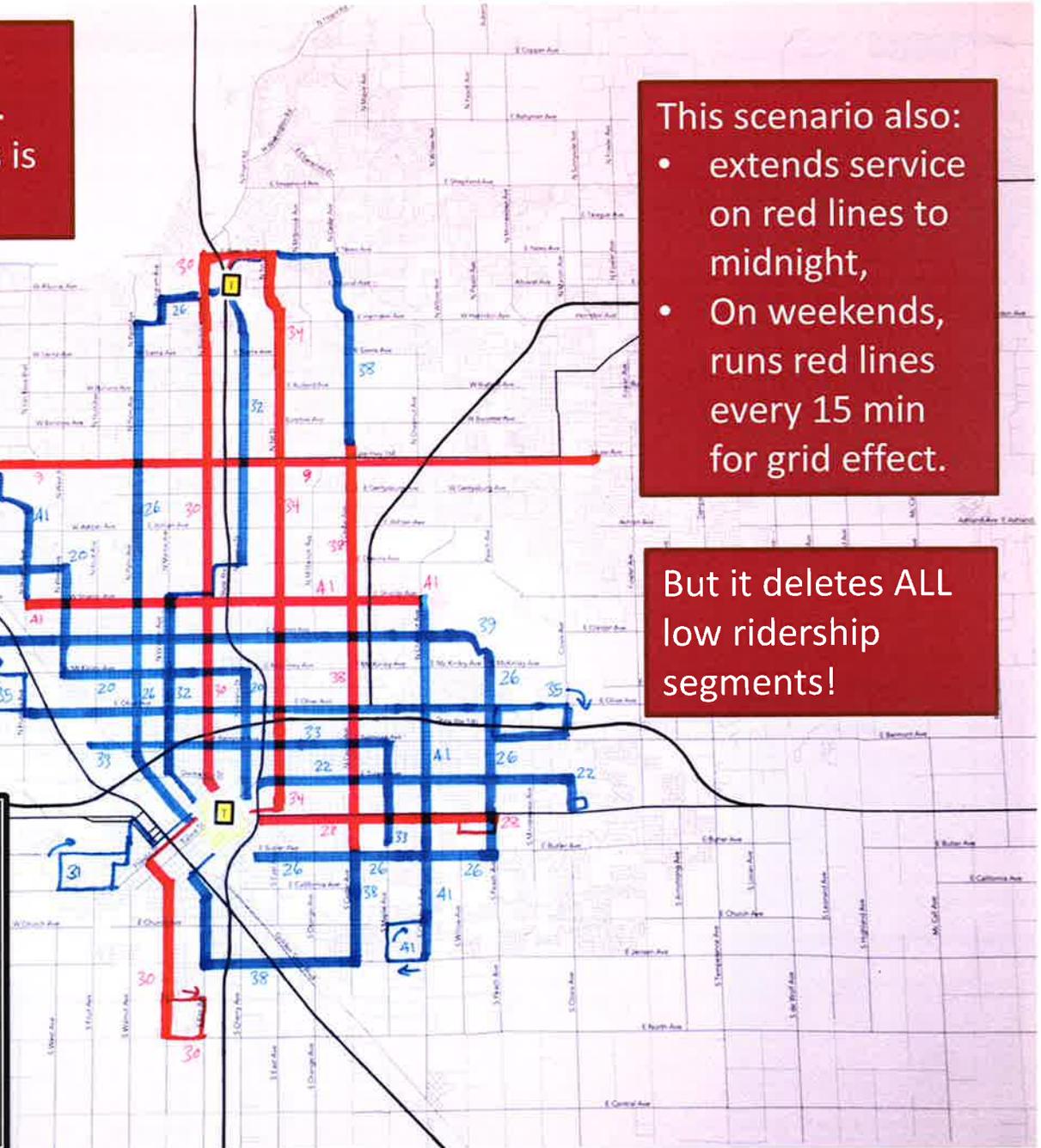
Ridership Scenario

JARRETT
WALKER
+ ASSOCIATES
Let's think about transit.

All-day frequency

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Ridership scenario. Frequency concentrated on busiest corridors. 15-minute service means that bus is always coming soon.

This scenario also:

- extends service on red lines to midnight,
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But it deletes ALL low ridership segments (Dashed pink)

Ridership Scenario

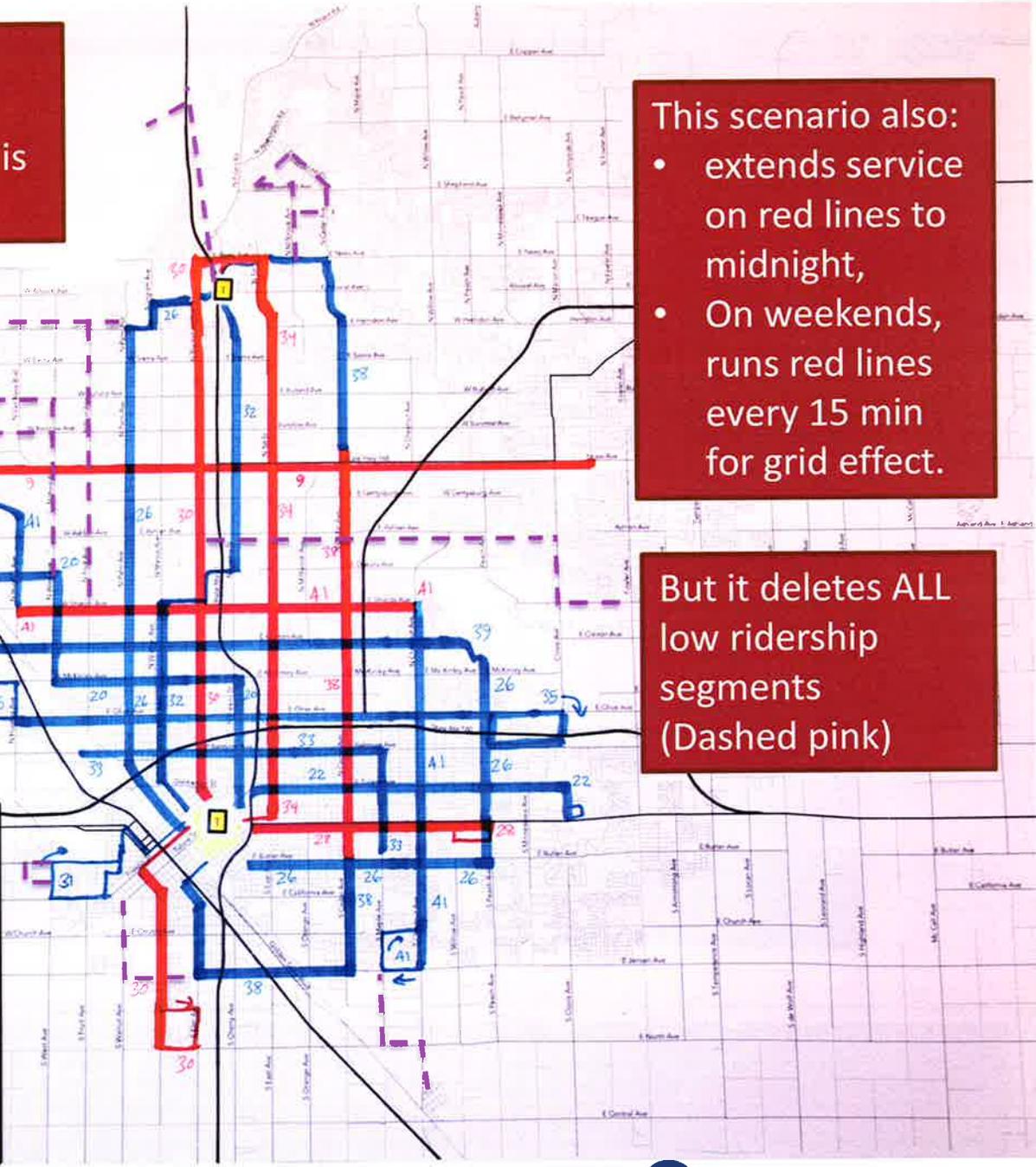
JARRETT WALKER + ASSOCIATES
Let's think about transit

All-day frequency

- 15 min (Red line)
- 20 min (Purple line)
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- 60 min (Green line)

T Main transfer point

- - Deleted (Dashed pink)



The tradeoffs

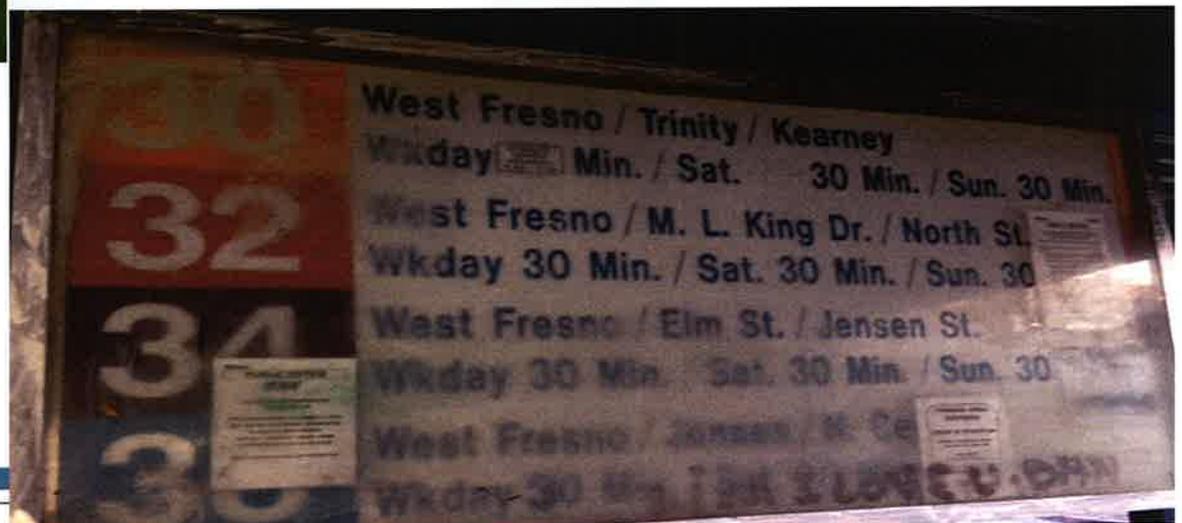
	Ridership Scenario	Coverage Scenario
% of residents and jobs covered by <u>any</u> service	↓	↑
% of residents and jobs covered by <u>frequent</u> service	↑	↓
Travel time benefits	↑	↓
Support for land use intensification	↑↑	↓
Positivity of Most Public Feedback	↓	↑
Ridership and Productivity	↑	↓



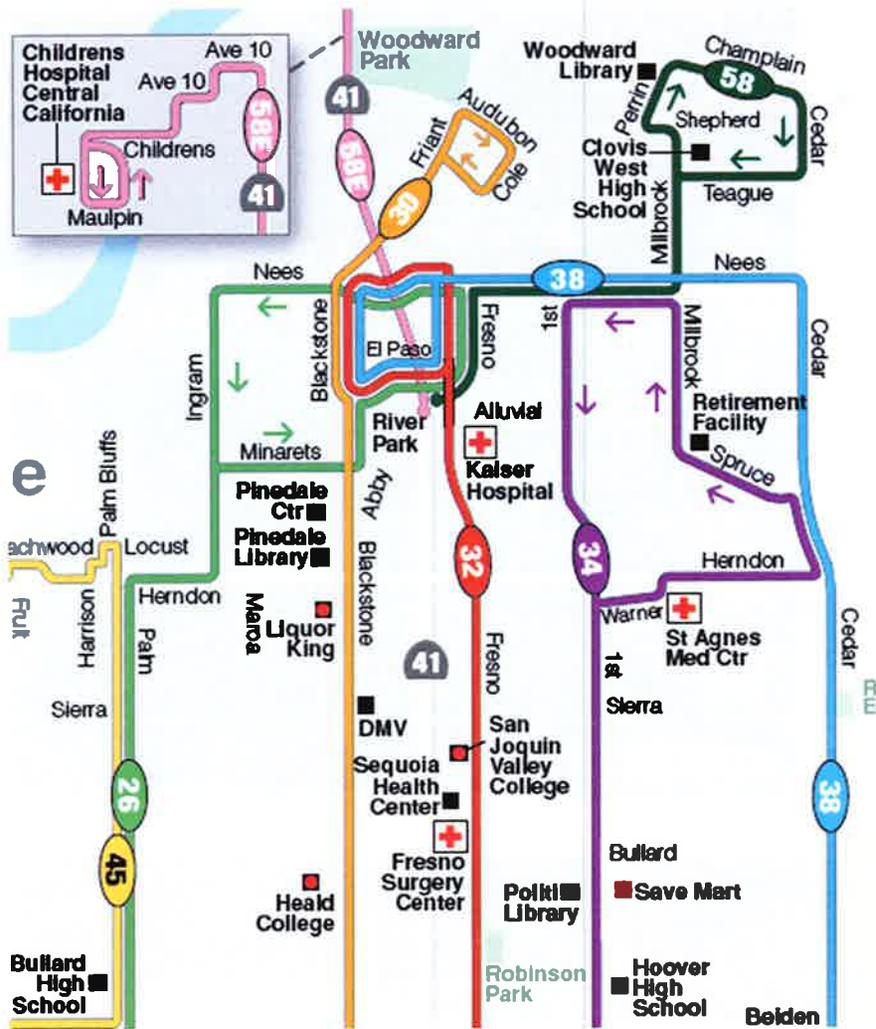
OTHER RIDERSHIP-IMPROVING ACTIONS

Downtown TC issues

- Stops for connecting buses are very far apart and not always in clear sight of each other.
- Wasteful operations arise due to inability of buses to terminate, take end-of-line breaks.
- Signage needs updating, clarity.

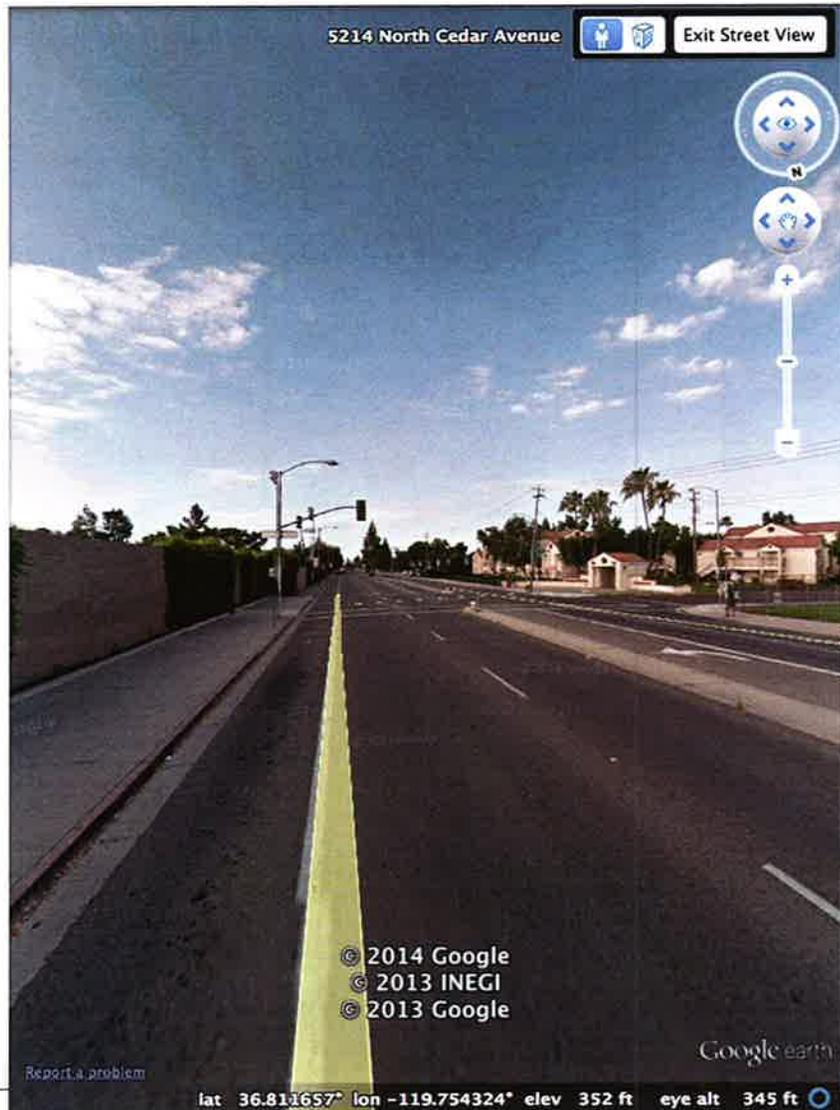


River Park TC



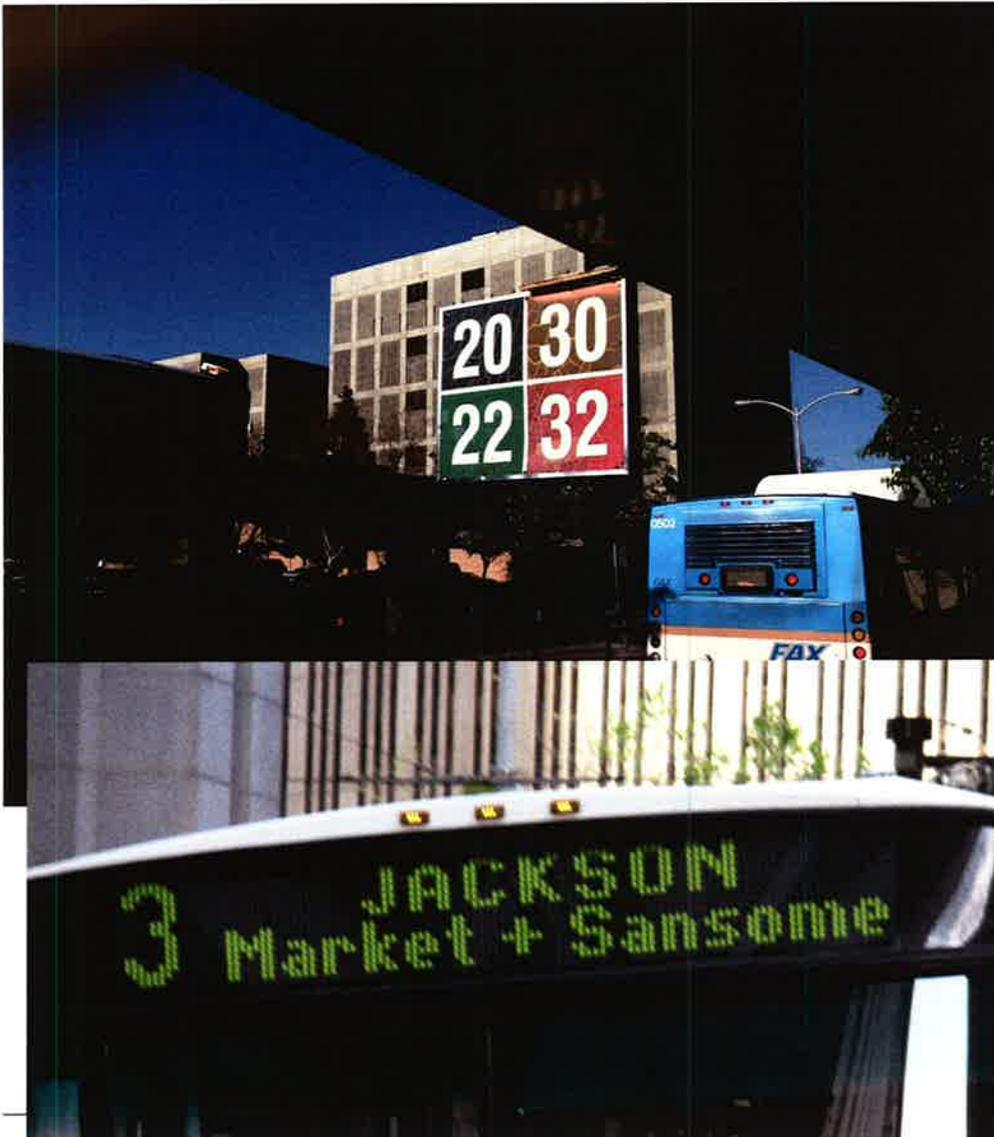
- Many routes naturally converge at the north end of Blackstone, and some feeder routes begin.
- These services need a common terminus and transit center.
- Reduce wasteful circulation.
- Safe and legible customer experience.

CSUF Off-Street Stops



- Most major universities have off-street transit centers suitable for their high demand.
- CSUF still requires students to walk to stops on Cedar or Shaw
 - Long walks in some cases
 - High-speed traffic
 - Inadequate space at stops.
 - Night safety issues
- CSUF would also get better service if buses could terminate there.

Legibility “low hanging fruit”



- Info system is too “coded.”
- Name routes after major streets for easy legibility and passive marketing.
 - “30 BLACKSTONE to River Park”
 - “The transit is part of the street.”
- Limit use of “feel good” messages that interrupt info.
 - “Have a Nice Day”
- Refresh signage at major stops.



POLICY OPTIONS

Stop spacing

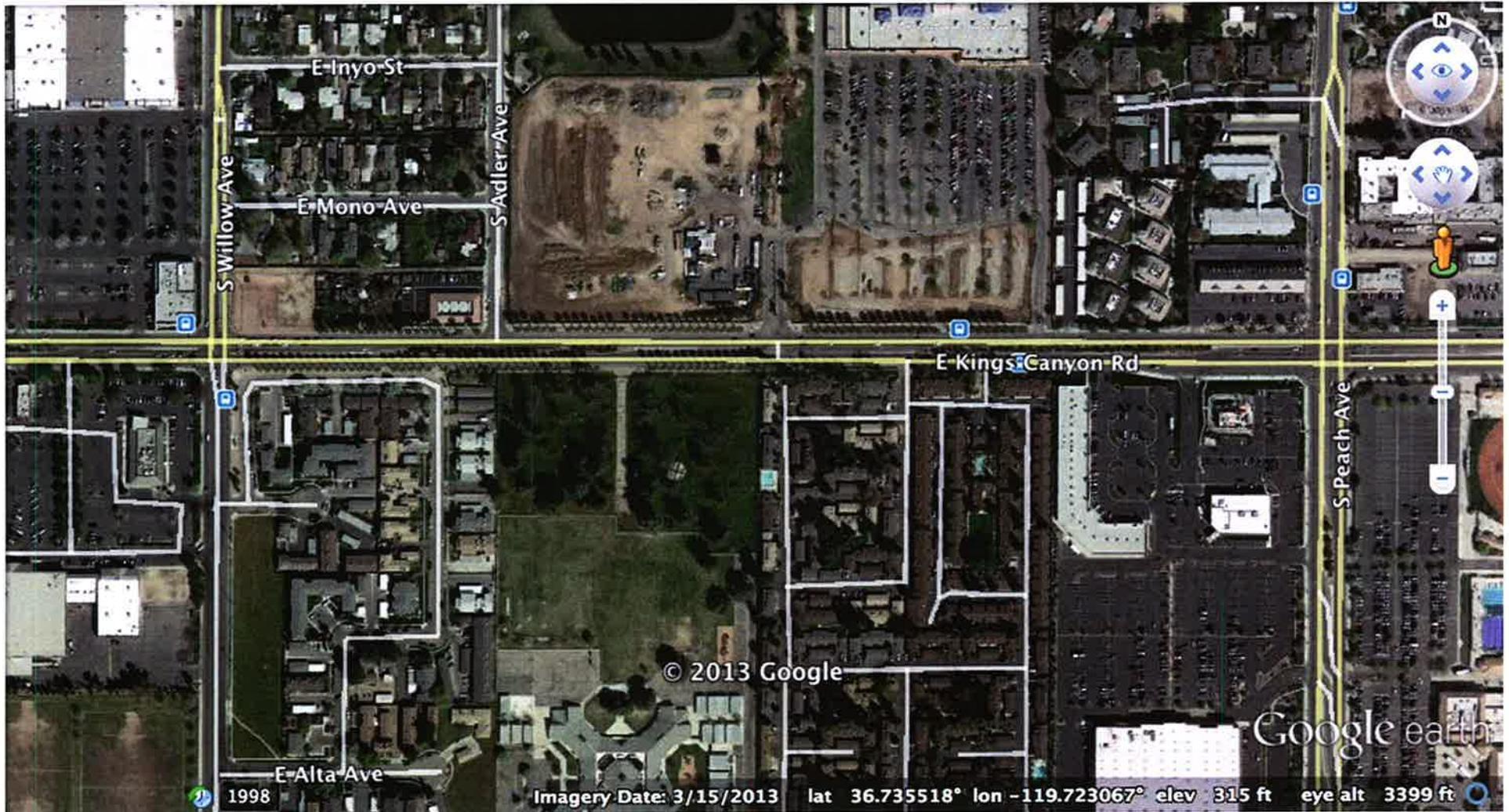
Current policy mandates

- optimum spacing of every 0.2 mile
- and every block in CBD.

Problems:

- These generate very slow travel times, especially in CBD.
- City's $\frac{1}{2}$ mile street grid makes $\frac{1}{4}$ (0.25) mile more practical than 0.2. In newer parts of city, safe street crossings are rarely $< \frac{1}{4}$ mile apart on average.
- On high speed streets, stops should not be located where it's unsafe to cross the street.

Stop spacing and traffic Planning: the “¼ mile rhythm”



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Stop spacing

Recommended policy:

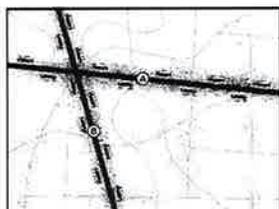
- Aim for a stop every $\frac{1}{4}$ mile.
- Can be 800-1000 ft in ped-friendly areas (older street grid)*
- Place stops closer only in response to high senior-disabled demand.
- Never place facing stops where it's unsafe to cross the street.
- Work with land use and traffic planners on optimal permanent stop locations averaging $\frac{1}{4}$ mi.

* 3 lettered streets downtown, or two named streets.

Policy on service purpose

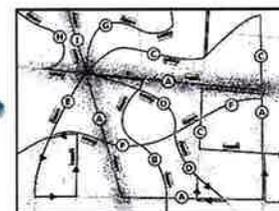
Ridership Goal

Think like a business!



Coverage Goal

Access for everyone!



After suitable discussion and outreach, form a policy on the % of resources to be devoted to a Ridership goal. Policy could be:

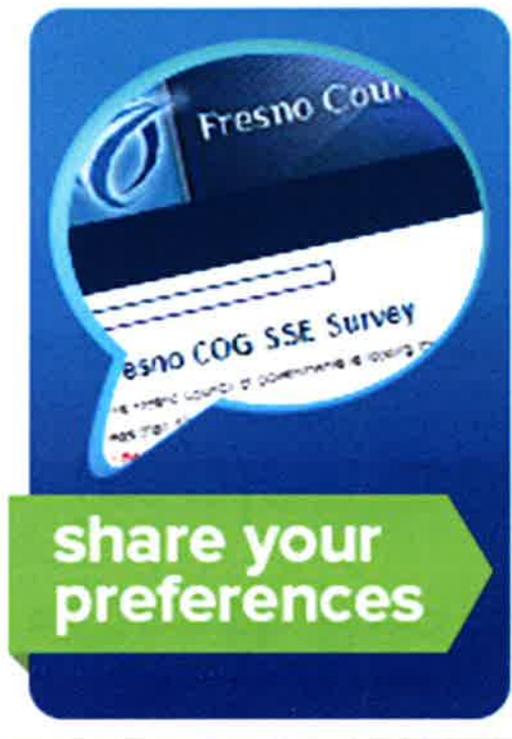
- *Confirm current practice, about 90%*
- *Shift further toward 100%, deleting coverage. (Ridership scenario)*
- *Shift lower, expanding coverage and lowering ridership. (Coverage scenario)*



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Current feedback



- Vetting of Alternatives through June 23
 - Council workshop
 - Eblast to over 4,000 database – OD Survey, Gap Analysis, BRT, FAX
 - Online survey

<http://www.fresnocog.org/strategic-transit-plan>

Next steps

- Draft Preferred Network and implantation Plan – August, 2014
- Presentations to Fresno, Clovis, and FCOG – August & September, 2014



DISCUSSION



ITEM NO. 2 A

DATE : 5/22/2014

**NO MATERIAL AT THE
TIME OF PRINTING**

WORKSHOP - Public Transportation Planning and Policy – Transportation
Department

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