

Dynamic Ridesharing Systems

The latest in rideshare matching



Presented by Kent Epperson, Traffic Solutions
South Coast Sustainability Summit

October 13, 2011



Countywide rideshare organization



963-SAVE / trafficsolutions.info



Employer consulting



CycleMAYnia / Bike Challenge



Vanpool assistance



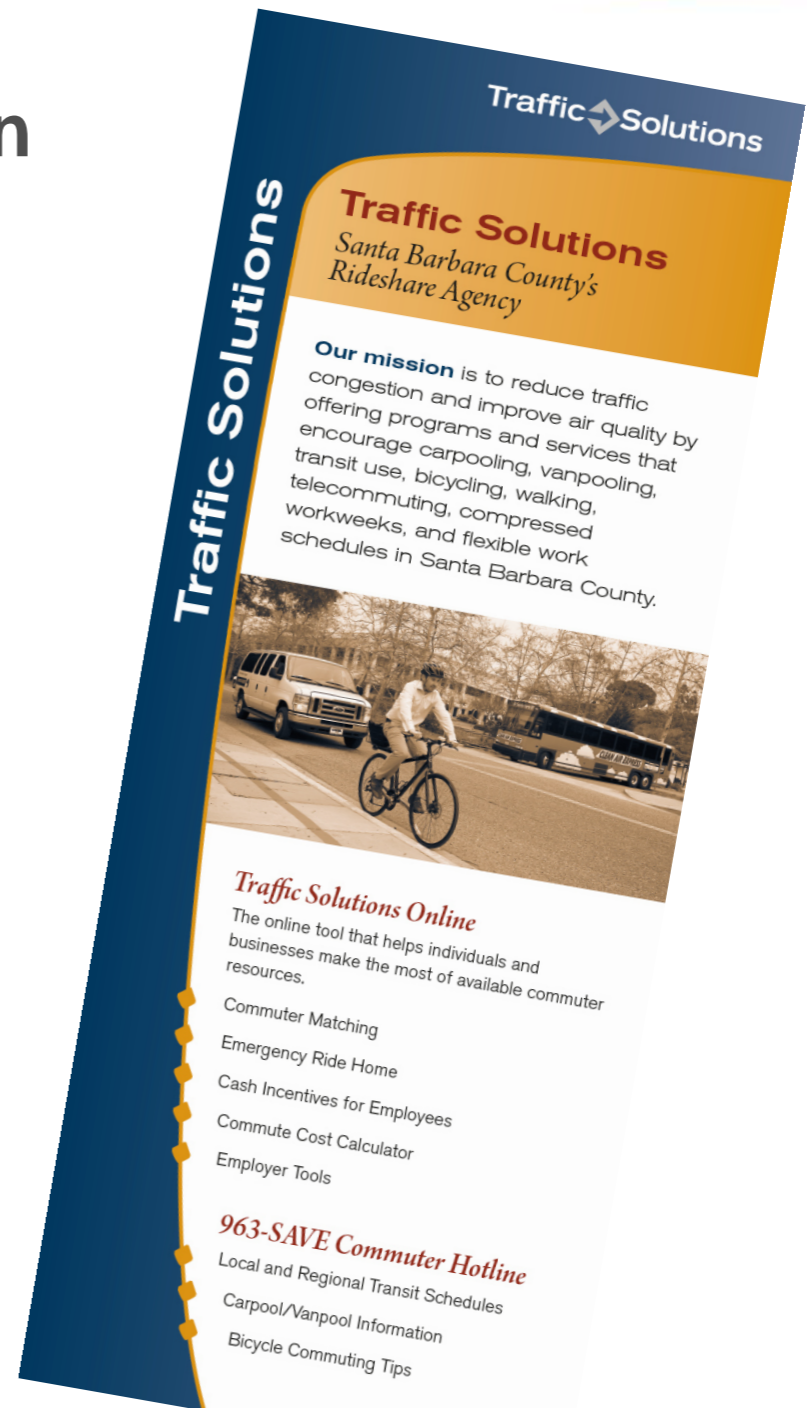
Rideshare promotions



SB County Bike Map & bike ed



FlexWork consulting



Carpooling Is

- ✓ **More Sustainable**
 - Less emissions per passenger mile
 - Fewer vehicles = faster speeds = less pollution
- ✓ **Less Expensive**
 - No buses, trains, drivers, mechanics, bridges, tracks, etc.
- ✓ **A Traffic Congestion Reducer**
 - Fewer vehicles to make same trips
- ✓ **Light on Infrastructure**
 - Less road space & parking needed
- ✓ **Socially Beneficial**



SB County Translation

- 1.12 passengers per car
- 216,000 Daily Commute Round Trips (2005)
- Currently 35,000 carpoolers
- 30% increase in carpooling =
 - 20,000 fewer daily car commute trips,
 - 410,000 fewer daily VMT,
 - 355,000 Lbs of daily CO₂,
 - \$233,000 in daily commute savings.

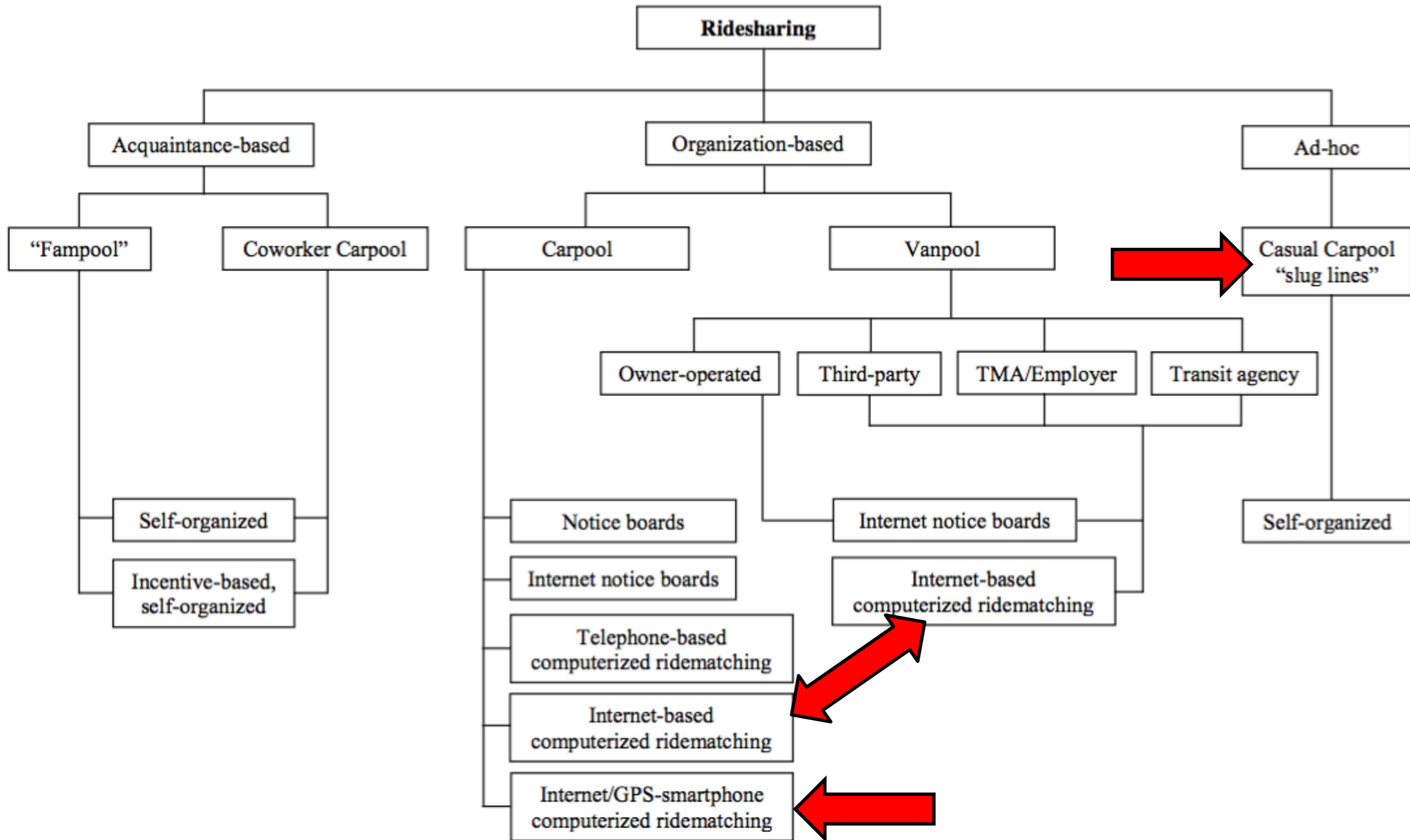
Evolution of Carpooling

1. Traditional Carpooling
 - Interpersonal
2. Slugging/Casual Carpooling
 - Meeting Place
3. Technology Facilitated Dynamic Ridesharing
 - Virtual Framework



Carpooling on decline nationally for past 30 years:

- 1980: 19.7%
- 1990: 13.3%
- 2000: 12.2%
- 2008: 10.7%



Transportation Sustainability Research Center - UC Berkeley

Santa Barbara County Mode Split

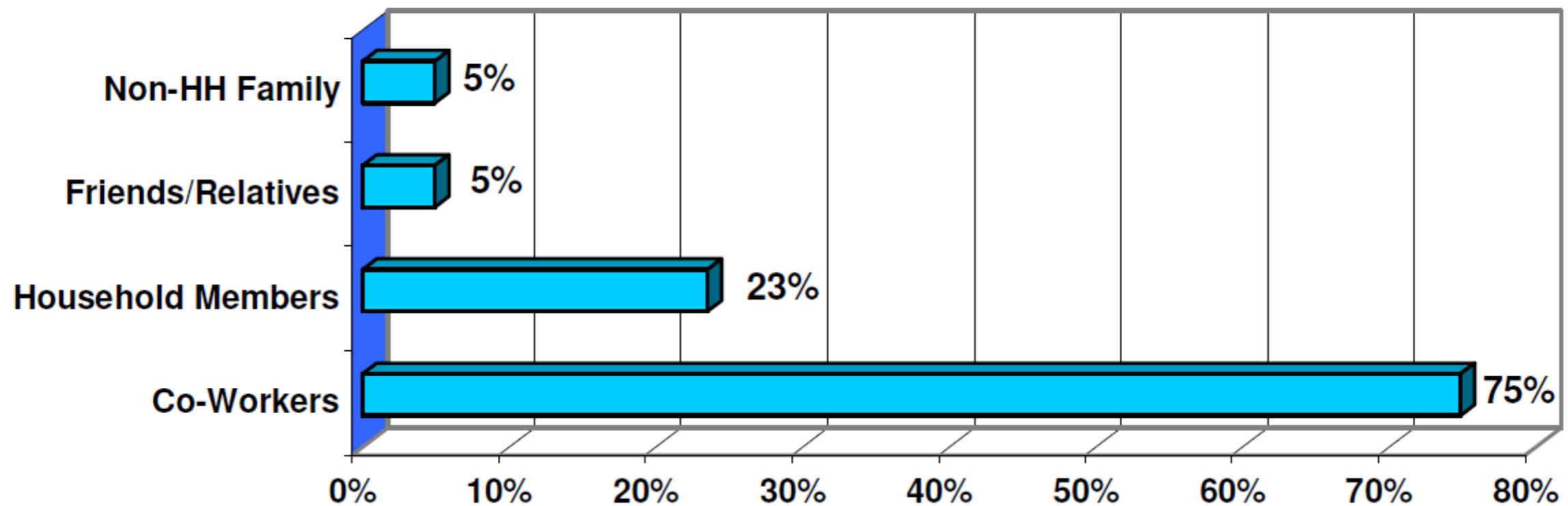
Source	2005 ACS National Average	2005 ACS SB County	2007 Commuter Profile SB County
Drive Alone	77.0%	67.9%	71.3%
Car/Vanpool	10.7%	16.9%	15.4%
Public Transit	4.7%	3.2%	3.8%
Walk	2.5%	4.0%	2.7%
Other	1.6%	3.8%	2.3%
Home Work/ Telecommute	3.6%	4.3%	4.5%
Time to Work	25	20	21

Note: Census data is all workers 1 hour or more per week, age 16 or older.
Commuter profile is 18 or older working a minimum of 35 hours per week.

Types of Carpoolers






Santa Barbara County Commuters

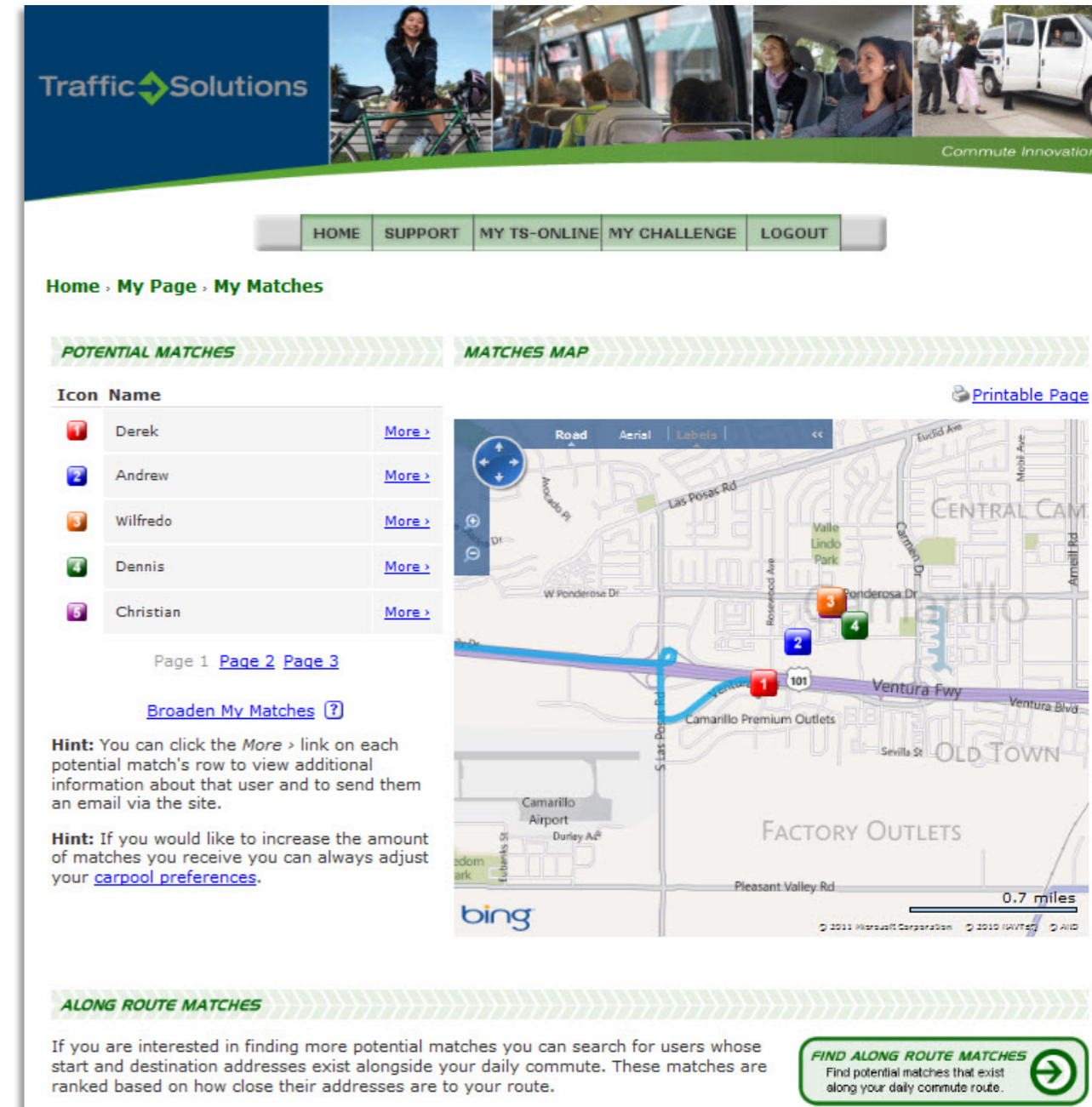
Figure 3.4: Carpool/Vanpool Partnerships (n=183)



Source: 2007 Tri-County Commuter Profile

Traffic Solutions Online

-  Carpool matching
-  Emergency Ride Home
-  Event management (Challenges, rideshare promotions, etc.)
-  Employer commuter program tools
-  Data collection and statistics



The screenshot shows the Traffic Solutions website interface. At the top, there is a navigation bar with links for HOME, SUPPORT, MY TS-ONLINE, MY CHALLENGE, and LOGOUT. Below this, the breadcrumb trail reads 'Home > My Page > My Matches'. The main content area is divided into two sections: 'POTENTIAL MATCHES' and 'MATCHES MAP'. The 'POTENTIAL MATCHES' section contains a table with the following data:

Icon	Name	More >
1	Derek	More >
2	Andrew	More >
3	Wilfredo	More >
4	Dennis	More >
5	Christian	More >

Below the table, there are links for 'Page 1', 'Page 2', and 'Page 3', along with a 'Broaden My Matches' link. A 'Printable Page' link is also visible. Two hints are provided: 'Hint: You can click the More > link on each potential match's row to view additional information about that user and to send them an email via the site.' and 'Hint: If you would like to increase the amount of matches you receive you can always adjust your carpool preferences.' The 'MATCHES MAP' section shows a map of Camarillo, CA, with several potential matches marked with numbered icons (1-5) along a route. The map includes labels for 'CENTRAL CAMARILLO', 'VALLE LINDO PARK', 'Camarillo Premium Outlets', and 'FACTORY OUTLETS'. A scale bar indicates 0.7 miles. At the bottom, there is a section for 'ALONG ROUTE MATCHES' with a button labeled 'FIND ALONG ROUTE MATCHES' and a description: 'Find potential matches that exist along your daily commute route.'








Casual Carpooling

- Formalized Hitchhiking
- Ski Resorts
- Slugging:
 - Northern Virginia
 - Dallas, TX
 - San Francisco, CA



Slugging - Conditions for Success

Why not for South Hwy 101?

-  Large # commuters living & working together – 15,000
-  Convenient transportation alternatives – Coastal Express
-  Choke point – Hwy 101
-  Long distant commutes - 30 to 40 miles one-way
-  HOV lane– In 2015 / 2025 - Need carpool parking incentives
-  Tolling – Need financial incentives
-  Dynamic Ridesharing

Dynamic Ridesharing

The Perfect Marriage

- ✓ Weds the best of transit with advantages of carpooling
- ✓ Establishes predictable routes
- ✓ SmartPhone trip board of trips & routes
- ✓ Facilitates cost sharing & incentives
- ✓ Coordinated with transit routes & stops



Dynamic Ridesharing - How it Works

1. Register via smartphone or internet
2. Driver posts trip 24 hours to 30 minutes prior
3. Rider finds trip and notifies driver
4. Driver confirms ride
5. Driver notified when approaching rider & views profile photo
6. Rider and driver exchange auto generated one-off PIN number
7. Automated payment is made from rider to driver at destination



Dynamic Ridesharing Projects

- **University College Cork, Ireland – 2007 – current**
 - Focused on students, faculty and staff
- **Seattle, W A – Route 520 / Microsoft – 2010-11**
 - Route 520 Construction Mitigation Project – Terminated due to insufficient users and difficult registration process.
 - Avego (software provider) now working directly with Microsoft employees.
- **Houston, TX – 2011 (joint Avego and NuRide)**
- **Sonoma, Marin & Contra Costa Counties – 2011**
- **SB Dynamic Rideshare Pilot Project – 2012/13**

SB Dynamic Ridesharing

- Community Environmental Council & Traffic Solutions
- FHWA Value Pricing Pilot Grant - 18 months
- Phase I: March – May 2012 (testing)
- Phase II: July – December 2012 (roll-out to general public)
- Target corridors:
 - Hwy 101 Ventura to SB and Goleta
 - SB City College to UC Santa Barbara
- If successful will roll-out Countywide



Dynamic Ridesharing Scope (cont.)

- Real-time and planned carpool matching (few minutes to few days' notice)
- Cross platform smartphones
- Method for screening users
- Website portal
- Features that reduce liability
- Trip tracking to calculate VMT reduction
- Customer rating system
- Social media integration (Facebook, LinkedIn, etc.)
- View transit options (desired, not required)
- Electronic payment system to incentivize carpooling



Challenges

RELIABILITY & INCENTIVES

- Need 200+ active users for both pilot corridors
- Improve Emergency Ride Home:
 - Voucher for taxi and rental car
 - Vanpool back-up rides
- Overcoming safety fears without adding too many screening steps
- Provide free carpool parking in Downtown SB for participants
- Provide meaningful incentives that encourage use

Next Steps

- **Learn from other Dynamic Rideshare programs**
- **Coordination with partnering agencies and employers**
- **Select software vendor, customize and test**
- **Hire interns (UCSB and SBCC)**
- **Identify routes and stops**
- **Secure additional financial sponsors**
- **Recruit phase I participants**

Don't go it alone.



Traffic Solutions

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