Santa Barbara Dynamic Ridesharing Pilot Program – *SmartRide*

FHWA Value Pricing Pilot Program

Final Report

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1.0 Executive Summary

In 2012 SBCAG Traffic Solutions and the Community Environmental Council launched the Dynamic Rideshare project, an FHWA Value Pricing Pilot Program project in Santa Barbara County. The project aimed to test the performance of Real Time Ridesharing through the use of the Avego Carma smartphone app and how pricing strategies could influence travel behavior. Two markets were targeted for this pilot: college students traveling Hwy 101 from Isla Vista to Santa Barbara City College and adult commuters traveling the highly congested Hwy 101 corridor from Ventura and Ojai to Santa Barbara and Goleta. The pilot was originally planned to be an 18 month pilot, but due to extensive beta testing of multiple versions of the app, as well as limited staff resources, the pilot was extended to three years.

The pilot was unsuccessful at launching Real Time Ridesharing in Santa Barbara County. The failure of adoption of Real Time Rideshare can be attributed to several factors, including the lengthy app development process, the steep learning curve using the app, and the lack of motivating forces and a culture for Real Time Ridesharing.

Over the three year pilot program, a total of 755 individuals downloaded the app; 418 users created a schedule in the app and 367 added a profile photo. Only 31 of the 755 users logged more than one trip. In total, 274 trips were made which resulted in 3,325 miles of ridesharing.

While the pilot failed at launching a viable Real Time Ridesharing community, it was successful in helping develop the Avego Carma app. It also had value in helping to evolve the concept of Real Time Ridesharing. Key lessons for communities interested in launching a Real Time Rideshare community are as follows:

1. *Conduct internal testing of the technology before introducing it to the general public, and only introduce a technology that is stable and user-friendly.*
2. *Target markets that have natural conditions that lend themselves to a Real Time Rideshare solution, i.e. toll lanes, HOV lanes, expensive parking, and a concentration of travel between select origins and destinations.*
3. *Remember that offering a Real Time Rideshare app does not create its own demand.*
4. *Don't underestimate the level of effort needed to build a critical mass of app users.*
5. *Consider testing smaller Real Time Rideshare groups composed of 15 to 25 individuals that have similar commutes as an incremental approach to building a larger Real Time Rideshare community. Each group should have a champion that will conduct outreach and marketing to form the group.*

2.0 Project Background

In 2012 SBCAG Traffic Solutions and the Community Environmental Council in Santa Barbara County, launched the Dynamic Rideshare project, an FHWA Value Pricing Pilot Program project.

The project focused on increasing rideshare participation in the Santa Barbara California region by implementing a dynamic ridesharing (Real Time Ridesharing) program through the use of a smartphone app that provided real time carpool matching for individual trips. The app also provided the ability to incentivize carpooling through micro payments from the driver to the rider and from Traffic Solutions to

the riders and drivers. Through GPS enabled mobile devices, actual trip data was tracked for all trips within the app.

Avego, Inc. was the selected software company for this project due to their direct experience in Real Time Ridesharing using their *Avego Driver* app (later rebranded as *Carma*) that was in use in several communities at the time the project was launched.

The purpose of the pilot was to:

- Test the performance of Real Time Ridesharing as a tool to reduce traffic congestion and stimulate a modal shift to ridesharing,

- Test Real Time Ridesharing in two different markets (Commuters and Students),

- Test how daily cash rideshare incentives change travel behavior,

- Test how an automated cost sharing system changes travel behavior,

- Determine the critical mass of participants needed to create a self-supporting Real Time Ridesharing system, and

- Collect data on the types of trips most conducive to Real Time Ridesharing.

2.1 Pilot Corridors

The Dynamic Ridesharing project targeted the two most congested corridors in Santa Barbara County, Hwy 101 between Ventura and Santa Barbara and Hwy 101 between Santa Barbara City College (SBCC) and Isla Vista near UC Santa Barbara. Each of these two corridors carry approximately 6,500 peak hour trips resulting in LOS F and are projected to carry approximately 7,500 trips by 2020. In order to address the congestion, an HOV lane is under construction on Highway 101 between Ventura to Santa Barbara. A seven mile stretch of HOV was recently completed and another ten mile stretch to be completed by 2027. Although no lane closures are planned during the 11 years of construction, significant delays are expected during construction.

Congestion also occurs in the SBCC parking lots with approximately 6,000 students circling the full structures on a daily basis and lots with only about 1,900 spaces available. SBCC has taken great measures to address the parking problem including issuing MTD bus passes to all students, enhancing bus service, subsidizing vanpools and designating 19% of the parking spaces for carpoolers. A growing number of students now live in Isla Vista near UC Santa Barbara. These students can either drive or take the 15X MTD bus. As the number of SBCC students living in Isla Vista has grown, the route 15X bus had become extremely over-crowded. At the time the pilot program was launched, many students were being left behind at the bus stop due to excess demand. This route has since been enhanced with new articulated buses that provide additional capacity.

Traffic Solutions, the Countywide Rideshare organization in the Santa Barbara County area (a Division of the Santa Barbara County Association of Governments) has maintained a carpool matching system for many years. At the time, the commuter matching site was called Traffic Solutions Online. This website contained approximately 5,000 people interested in carpooling.

Knowing that the success of the Dynamic Rideshare pilot program would largely depend on generating enough people to use the DR system on a daily basis to provide dependable rides in the two Dynamic Rideshare corridors, it was estimated that approximately 180 drivers and 180 riders (90 in each corridor) would be needed for the pilot.

The project was implemented in four phases. Phase I involved the testing and refining of the smartphone app, Phase II targeted SBCC students living in Isla Vista, Phase III targeted Ventura to Santa Barbara commuters, Phase IV targeted Ojai to Santa Barbara commuters and students.

2.2 Project Timeline

The timeline for this project was extended from an 18 month project to 3 years due to app development challenges and other competing projects. The implementation timeline was as follows.

Software App Contract Awarded - November 2011

Avego Driver App Design, Branding and Website Design: January – May 2012:

Phase I *Avego Driver* App SBCC Beta Testing: June – August 2012:

Avego Driver App Redesign (renamed *Avego RTR*): November 2012

Phase II SBCC Pilot Rollout: January – May 2013

Avego rebranding to *Carma*: July 2013

Phase III Hwy 101 Commuter Pilot / SmartRide Challenge: September – December 2013

Phase IV Ojai to Santa Barbara: July – December 2014

2.3 Project Budget

Total expenses for the project totaled $197,000 of which $39,400 came from local sources and $57,600 came from the FHWA Value Pricing Pilot Program.

Marketing Outreach and Incentives	$41,940
Software Management	$79,382
SBCAG Staff and Data Analysis	$75,677
Total	$197,000

Initially more funding was set aside for marketing, outreach and incentives, however due to the extended pilot timeline, extensive software app beta testing and overall poor participation rates, the budget was adjusted to fund more software management and internal staff time.

2.4 Acknowledgments

This pilot project was a collaborative project between SBCAG Traffic Solutions and several key partners. Avego, Inc. staff worked tirelessly to develop an app that ultimately was stable and user friendly. They also provided extensive experience in Real Time Ridesharing, outreach, and they invested significant resources into the pilot project. The Community Environmental Council provided dedicated staff that

assisted in strategic planning, outreach and marketing. SBCC faculty and staff opened their doors to outreach and allowed for a strong presence on campus. SBCC Student Council members volunteered time and enthusiasm to help get the word out on campus. The Santa Barbara Metropolitan Transit District supported marketing at bus stops and on buses.   The large employers of Cottage Health Systems, Yardi Systems, City of Santa Barbara, County of Santa Barbara, City of Goleta, Medtronic and Allergan all agreed to participate in the pilot program.

3.0 Project Implementation

3.1 Safety and Rider Experience

Prior to launching the program, there were many concerns about security, screening and safety. When this pilot was first launched, services such as Uber and Lyft were not in place, so carpooling with complete strangers was very foreign to the general public. One of Avego's prior pilot programs (Seattle) had included screening for all users. Based on that project experience, Avego discouraged screening registrants, since the screening process was a significant barrier to participation in the Seattle project. SBCAG Legal Counsel also discouraged screening registrants since it placed greater liability on SBCAG and less on the user. Rather than screen registrants, riders were encouraged to use their own discression and screen their carpool partners before entering their car.   The *Carma* app included a crowd rating system similar to Airbnb and Lyft. After each trip, both the rider and the driver were prompted to rate and leave comments about their carpool partner before completing the transaction. Both riders and drivers were able to block any future ridesharing with any of their previous carpoolers if they so wished. *Carma* also allowed users to link their Facebook or Linkedin account to their *Carma* account, enabling users to see if they had mutual friends or common interests before sharing a ride. The *Carma* app also allowed a user to create or join a group of passengers based on predefined geographical areas, employment site or personal preference, enabling commuters to narrow their pool of *Carma* users.

3.2 Marketing, Outreach and Incentives

3.2.1 Branding: Before the pilot was launched, the management team weighed the branding options, considering whether to market Avego as the program or to create unique branding separate from the app itself. In the end separate branding was adopted (SmartRide^{tm}), so that if the app did not stick, other apps or Real Time Ridesharing services could be used and recommended beyond the pilot program. While this presented its own branding challenges, it proved a wise decision, especially as the Avego app went through its own rebranding through the course of the pilot program. Creating a separate brand for the project also proved useful at the end of the pilot as it enabled the use of the SmartRide branding and SmartRide.org website for the recently upgraded county-wide ridematching website, multi-modal trip planner and employer commuter benefits management system. SmartRide is an unregistered trademarked name owned by SBCAG Traffic Solutions.

3.2.2 Collateral: There were three SmartRide collateral pieces used in marketing the program; bookmarks, postcards and small posters. In addition to these SmartRide marketing pieces, Avego branded smartphone hands-free dashboard mounts were given away at tabling events.

3.2.3 Advertising: Due to the iterative phases of the pilot program, most marketing was via email, websites, Facebook and banners. Towards the end of the pilot program, in order to test the

marketability of the new app name *Carma*, a two week radio ad campaign was launched between the Phase III and Phase IV of the project. After the paid advertising campaign came to a close, two radio stations continued to air the shorter 30 second PSA version of the ad for an additional year. The only print ads published during the pilot were for Phase IV of the project in the local Ojai newspaper.

3.2.4 Outreach: The type of outreach varied widely between the different phases of the project. The following outreach approaches were used:

> **Phase I** –During the summer semester, staff conducted tabling at the Farmers Market on the SBCC campus to recruit twenty students to help beta test the *Avego Driver* app. A SmartRide Beta Test Pizza Mixer was also hosted at the Tropicana Gardens (SBCC-oriented student housing in Isla Vista) and materials were distributed to all the residents. Five residents attended the mixer and agreed to be part of the beta. Initially, there were two steps to participate in the pilot program. First, the participant had to register on the SmartRide.org website and agree to the terms and conditions of the pilot and qualify for incentives. Second, they needed to download the app and activate their *Avego Driver* account, this two-step process was consolidated into one step during Phase III of the project. By the end of Phase I, twenty-one students had registered on the website and eleven students had downloaded the app. The eleven participants offered thirty-seven drives, picked up seven simulation rides and eleven real rides. The beta testing proved invaluable. Rider feedback and staff's direct experience using the *Avego Driver* app during the beta resulted in a complete redesign of the app.

> **Phase II** – The rollout of the new app *Avego RTR* was well timed for the beginning of the Spring term at SBCC. To get the word out, staff tabled on campus for three weeks, made classroom presentations and conducted outreach at MTD bus stops and on the route 15X buses in Isla Vista. Students that downloaded the app received a $5.00 Amazon Card and an Avego branded smartphone hands-free car mount. Ads were placed on the SBCC pipeline website, banners and posters were displayed on campus and emails were sent to all students. Once students began signing up for the program, staff conducted one on one outreach while offering rides and requesting rides to and from campus. During the four month Phase II of the pilot, 468 additional students had downloaded the app.

> **Phase III** - After Phase II, the app went through additional changes and was rebranded as *Carma*. The app had a new feature that enabled the creation of groups of *Carma* users to more closely coordinate rides with. The project team asserted that expecting adult commuters to rideshare with a complete stranger was too big of leap to take. By creating groups, users could create a small group of potential carpoolers that were either associated with their employer or a common origin and destination. Outreach was more difficult during Phase III because commuters were spread out in many destinations and employers. To concentrate the outreach effort, four outreach events were held at key employer areas; two in Downtown Santa Barbara and two in Goleta. The events took place at temporary "pop-up parks" set-up in an on-street parking spot, with live music, pizza and free chair massages. This helped create buzz and attract attendees. Emails went out to all employees at the larger employment sites nearby. Commuters that attended the events were encouraged to create groups on Carma and initiate a trip within the week. A special campaign called the *SmartRide Challenge* played up the group concept by having the groups compete against other groups for donation dollars (donation cards

that can be donated to a non-profit of their choice) and Amazon cards. The promotion adopted a 50's superhero comic book theme as shown here. During the two month campaign approximately 121 commuters downloaded the app and 68 created schedules in the app. The group concept never took off, however, and nobody completed enough tasks in *Carma* to qualify for any incentives or prizes.

Phase IV - The final phase of the project targeted Ojai to Santa Barbara commuters and SBCC students. The Ojai Valley is a community of about 20,000 people located 45 minutes from Santa Barbara. Commuters traveled along the most congested section of Hwy 101 to Santa Barbara. The corridor is not served by transit making it ideal for carpooling. The outreach effort for this campaign took a small town approach, with folding roadside chalkboard signs, banners on bumpers, tabling at the Ojai Farmers Market, and flyers at local establishments. The campaign also included an article and ad in the local Ojai paper. Facebook posts and several email list serve email blasts were also directed to local residents. The messages encouraged people to attend one of the Ojai Carpool Community Mixers. The mixers were designed to get people to meet face to face as well as to have them register for a stand-alone Ojai to Santa Barbara Carpool list. Once the list was formed, they were encouraged to use *Carma* to coordinate their rides. Thirty-seven commuters registered for the list and five downloaded the *Carma* app. The Ojai based students were not asked to join the separate carpool list, but instead were asked to download the app and join an Ojai to SBCC group on *Carma*. During Phase IV of the project, 122 people downloaded the app and five trips were made on *Carma*. Although this group did not embrace the use of *Carma*, the 37 member carpool group remains active with several new daily carpools formed as a result of the outreach campaign. One reason that this carpool community continued beyond the pilot is that a key team staff member is one of the members of the Ojai Carpool Community. This model of creating smaller Real Time Rideshare communities championed by a local commuter will be duplicated in other travel corridors in Santa Barbara County.

3.2.5 Incentives: Since the funding source for this project was the Value Pricing Pilot Program (VPPP), testing the effectiveness of various pricing incentives was a very important aspect of the pilot project.

Enrollment Incentives - A variety of incentives were offered through the three year pilot program. Students were offered a $5.00 Amazon Card for downloading the app. Students were also offered a $25 Amazon card after taking 10 rides and a chance to win an iPad drawing each month. Additionally, upon downloading the app, each user was given $20 in their Avego account to spend towards rides.

Driver Incentives - During the pilot program, Santa Barbara County did not have any HOV lanes to provide a convenience incentive for drivers to carry carpool passengers. One of the purposes of introducing driver incentives was to provide an additional motive for taking on additional passengers. Full time carpoolers either take turns driving to equalize travel costs, or they agree on a contribution towards gas and wear and tear. However, this usual system of compensation does not work for Real Time Ridesharing since there is no regularity between passengers, and negotiating fees is awkward between strangers. In order to create demand for drivers and also provide a uniform fee for all trips, the *Carma* app is designed with a built-in distance-based rider fee that is paid by the rider to the driver. The cost per rider was $1 for a pickup, $0.20 per mile

until mile 15 and $0.08 per mile thereafter. A 15% transaction fee was retained by Avego and the remaining was paid to the driver. Drivers and riders were preloaded with $20 in their *Carma* account. Periodically, money could be withdrawn or deposited into one's *Carma* account via credit card or PayPal. During Phase IV of the pilot carpoolers were offered an additional incentive of $25 donation dollars for carpooling with someone new. Donation dollars could be donated to a non-profit of their choice through a website called JustGive.org.

Parking Incentives - When this project was selected for the VPPP, it was requested that parking pricing also be part of the project. There were three parking scenarios for the pilot; SBCC campus parking, Downtown Santa Barbara parking and private employer parking. For SBCC students, parking is charged on quarterly basis. Students that have passengers in their car can park for free in designated parking spots on campus. The parking supply on campus is far lower than the demand, causing students, faculty and staff to circle the parking lot for 10 to 15 minutes to find a parking space during peak times of the day. Often, the carpool spots remain open after the general parking spaces have filled. These conditions created a built in parking pricing incentive for carpooling. In Downtown Santa Barbara, parking is charged either by the day or by the month. Two outlying commuter lots offer free parking for carpoolers. Early in the project, the team requested additional discounts for the more convenient parking lots for SmartRide participants, however, the Downtown Parking Committee did not approve these discounts. Due to the fact that parking is not free in Downtown Santa Barbara, there were built in incentives to ridesharing. For most employers located outside the Downtown area, parking is free. The only exceptions are Cottage Hospital and UCSB. In the case of Cottage Hospital, employees are offered $75 cash per month in lieu of a parking space, and in the case of UCSB, faculty and staff are offered a transit pass, discount on vanpooling and 57 hours of free parking if they do not buy a monthly parking permit. In some cases, employers have dedicated carpool parking spaces that add the convenience of location and a guaranteed space for those that rideshare.

4.0 Participation Rates

Over the three year pilot program, a total of 755 individuals downloaded the app, 418 created a schedule in the app, 367 added a profile photo and 122 users logged a trip. In total, 274 trips were made totaling 3,325 miles of ridesharing. The top origin and destinations were SBCC, SBCAG, Downtown Santa Barbara, Isla Vista and Lompoc and the average trip length was 14 miles.

Table 1 shows the participation rates through the four phases of the project. Although the project goal of recruiting 360 total participants was met during the pilot program, only 122 of the 755 people that downloaded the app made a trip. Of those 122 users, only 31 made more than one trip. Table 1 shows the participation rates by each phase of the project. Only during the first few weeks of Phase II were there any measurable trips being made by the users. Out of the 468 students that downloaded the app during Phase II, 97 trips were made, many of which were facilitated by the staff and volunteers working on the pilot project. Those users that did find potential carpoolers through the app would not get responses to their requests because the other users were not checking their app messages or were not logged into the app. After one or two failed attempts to find or offer a ride, the user would never open the app again. One challenge that was faced for the earlier versions of the app, was getting app users to create a schedule in the app. Without a schedule, the users would not be show up in the searchable trips. Less than half of the users created schedules in Avego RTR, whereas, nearly 100% of the users of

later versions of the Carma app created a schedule since that was a required step in creating an account in the app.

Table 1: SmartRide Participation Rates by Pilot Phase

# of Users	Phase I Beta Testing	Phase II SBCC Pilot	Phase III Hwy 101 Commuter	Phase IV Ojai to SB	Total
Downloaded App	44	468	121	122	755
Created Schedule	29	200	68	121	418
Added a photo	23	157	93	94	367
Made a trip	13	97	7	5	122

5.0 Lessons Learned

5.1 Changing Travel Behavior While Technology Changes

This pilot program was faced with two significant challenges simultaneously. Everyday Traffic Solutions is faced with the challenge of changing people's travel behavior. Just asking commuter to switch from driving alone to carpooling is a big leap. In this pilot, people were not only asked to take the leap into carpooling, but carpooling with a different stranger every day. They were also asked to trust that they could find a ride when they needed one with only thirty minutes or less to plan the ride. Each of these individual travel behavior shifts are significant behavior changes for people. However, this pilot program was as much about changing technology and beta testing an app as it was about changing travel behavior.

5.1.1 Smartphone Adoption: In 2009, when the project application was submitted, only 38% of all US mobile phone users owned a smartphone, compared to the 77% of all cell phone users that owned a smartphone at the end of the three year pilot program. When the project was first envisioned, the project team proposed using project funding to purchase smartphone's or to pay broadband cell service contracts for project participants in the program. By 2011, when the grant funding was authorized, buying phones or cell service plans were no longer a necessary incentive to enlist enough participants in the program. Instead, Amazon cards and chances to win an iPad were introduced to encourage people to participate. Another limitation was the type of smartphone. At the beginning of the pilot the *Avego Driver* app was only available on the iPhone and the Windows Phone 7. Midway through the pilot the app became available for Android phones and towards the end the app became a mobile enabled web app.

5.1.2 The Smartphone Learning Curve: There were generally two types of pilot participants, early adopters and novice adopters. This project included two distinct markets, one being college students and the other being adult commuters. Most students were competent smartphone users, however

many adult commuters were still learning how to how to use the phone for navigation, internet browsing, texting and online payments. The SmartRide program was asking smartphone users to use many of these functions simultaneously, often as they were rushing out the door to school or work.

5.1.3 Ap Beta Testing, Updates and Rebranding: One of the most significant challenges faced during the pilot was the continual process of beta testing, fine-tuning and improving the multiple versions of the app. The initial *Avego Driver* app proved to be too complex and confusing to the users. It also required significant battery power and a strong cell signal to operate. Based on early feedback and internal beta testing, Avego rebuilt the app from the ground up (*Avego RTR*), greatly simplifying its functionality. While this was a move in the right direction, it resulted in an unexpected second round of beta testing followed by new versions that required additional beta testing. The instability of the app during this period required the postponement of the second and third phase of the project. It also resulted in users losing interest in the app. The app was renamed a second time during this process (from *Avego RTR* to *Carma*) creating additional confusion and rebranding of outreach materials. By the end of the pilot, the Carma app was operating smoothly and much more user friendly than the earlier versions of the ap.

People are now being inundated with apps. Even for well-functioning apps there is an initial appeal once the app is downloaded. If the app does not serve an immediate purpose, it is often forgotten and eventually deleted to make way for other apps or smartphone content.

5.1.4 Real Time Ridesharing versus Taxi-like Services: In November 2012, a year after the pilot was launched, the State of California filed a lawsuit against "Ridesharing" app companies, *Uber*, *Lyft* and *Sidecar*. This lawsuit stirred a flurry of debate about the legitimacy of other aps such as *Carma*. What many people did not understand was the distinction between *Uber*, *Lyft* and true rideshare aps such as *Carma* (known as *Avego RTR* at the time). The reason Avego was not named in the lawsuit is that it was not a paid taxi-like service, but instead a way for a driver to get paid for a portion of its automobile costs for a trip the driver had already planned. In the case of *Uber* and *Lyft*, the passenger has substituted their car with someone else's, whereas with *Carma*, the rider is eliminating their car trip, thereby reducing traffic congestion and reducing air pollutions.   *Lyft* was originally envisioned as a way for people to share rides similar to *Carma* but soon shifted its approach to paid taxi-like service to insure that there were a critical mass of drivers offering rides. Many Real Time Rideshare enthusiasts have been closely watching the evolution of these various approaches to shared transportation, and the jury is still out as to which approach to true Real Time Ridesharing will ultimately stick.

5.2 Timing is Everything

Over the three year pilot, 755 people downloaded the app. While this is far more than the goal we set for the pilot, these users experienced the app momentarily over the three years. The key to making Real Time Ridesharing work is having a critical mass of users on a given day. If half of the 755 app owners would have used the app during the first 3 months of the project, commuters and students would have seen a critical mass of users to rideshare with. It is strongly recommended that efforts to market Real Time Ridesharing apps such as *Carma* be highly concentrated outreach efforts over a short amount of time timed after the app has been thoroughly beta tested and proven to be stable and user friendly. There is a short window of time in which an app user will attempt to use the app. If that window is missed, not only have you lost a potential Real Time Rideshare member, but also any positive word of mouth referrals to coworkers or friends.

5.3 Pricing Strategies

Due to the challenges with technology and adoption, it is hard to draw any definitive conclusions about the level of cash incentives needed to influence travel behavior. If someone does not find a carpool partner, the amount they could earn is irrelevant. The initial $100 beta testing incentives offered for beta testers was effective, as were the $5 Amazon cards offered to students to download the app. However, the $25 Amazon card incentives offered for making 10 trips were largely unattainable since there were never enough active daily users to make ridesharing reliable.

The driver fees were initially $0.20 per mile for any length of trip. This was too expensive for long distance commuters so the per mile rate was reduced to $0.08 per mile after the first 15 miles. This pricing model seemed acceptable to most people and made long distance trips relatively comparable to the commuter bus. Some users wanted to use the app to find carpoolers but preferred to arrange a lower fee with the passenger. Offering a free ride through the app was a function added midway through the pilot but was difficult to find on several versions of the app. Some of commuters that experimented with the app, preferred to simply exchange contact info with a potential carpooler and arrange more consistent carpools outside of the app. These people were generally better candidates for more traditional carpooling rather than Real Time Ridesharing.

5.4 SBCC and the College Market for Real Time Ridesharing

The SBCC pilot was the most successful phase of the pilot. There were several favorable conditions that made SBCC an ideal market for Real Time Ridesharing. Foremost was the significant hassle of finding parking on campus. The dedicated carpool spaces were not only free, but were also more often available than the general purpose parking spaces. There were also a high volume of students traveling from a single origin (Isla Vista) to campus. Students also had a desire to save money and protect the environment. Many students were also experienced smartphone users.

By having a single origin (Isla Vista) and destination, outreach was cost effective and efficient. Tabling was done at high traffic locations, and short presentations were made in classrooms, at bus stops, and on the MTD route 15X. Students were excited by the concept, and most students, particularly males, were open to the idea of Real Time Ridesharing with other students even if they didn't know them. During the four month pilot, 464 students downloaded the app.

The question remains as to why more students did not use the app. First, the app was unstable and the campus had poor cell service making the experience frustrating. Secondly, students had access to free bus passes making Real Time Ridesharing a more expensive option. Students that were in the habit of driving to campus were rushing to get to class and did not have the mental bandwidth to learn the app or deal with glitches. Last, most users never checked their app messages and therefore never responded to ride request.

Many of these challenges could have been overcome. With the more stable version of the Carma app and additional resources and staff time to continue conducting outreach for another one or two more semesters, students may have started using the app. Ongoing outreach would be needed, since there is a quick turnover of students at SBCC.

5.5 Post-pilot Ridesharing in Santa Barbara County

Once it appeared the that the *Carma* app was not sticking, Traffic Solutions took steps to upgrade its web-based carpool matching system to a more comprehensive multi-modal, multi-function mobile friendly website.   The SmartRide branding was re-purposed for this new website. SmartRide.org includes tools such as a multi-modal trip planner, carpool matching, employer commuter program management, challenges and incentive management, special event ridesharing, school pool and the Emergency Ride Home. The SmartRide pilot program participants have been invited to enroll in the new SmartRide.org website. While SmartRide will not take the place of a Real Time Ridesharing app such as *Carma*, it will attract captive users and will appeal to a broader audience. Since the site is mobile-friendly, it is expected that many users will access the site from their smartphone.

5.6 Final Thoughts about Real Time Ridesharing

For most people, arranging a carpool with a stranger is awkward. Ridematching services attempt to make this process more comfortable. For many long-term carpoolers this may only occur once or twice a year. With real time ridesharing, the awkwardness can occur every time a trip is made. To overcome this awkwardness, Real Time Ridesharing must help the user become comfortable with the *experience* of Real Time Ridesharing rather than having to become comfortable with all of the *individual* carpoolers. There also needs to be a natural market for Real Time Ridesharing. Introducing an app will not create the market. People need to have a strong motive to join a Real Time Rideshare community. Toll roads, expensive parking, HOV lanes and high gas prices are important conditions to creating a need for Real Time Ridesharing. A high volume of traffic and a concentration origins and destinations are also needed to create the critical mass of users.

In the case of this pilot program, several of these conditions were absent. No toll roads or HOV lanes existed, parking was relatively inexpensive, gas prices were relatively inexpensive and the app (particularly during the early version of the app) did not provide simplicity and reliability. In short, we were never able to normalize the experience of Real Time Ridesharing.

Real Time Ridesharing has tremendous potential to reshape the way we move people. However, it may be too large of a leap for many communities. Ultimately, carpooling is about building relationships, whether short term or long term. A concept worth further testing is a Real Time Rideshare groups comprised of 15 to 25 individuals, rather than a single large Real Time Rideshare community of hundreds or thousands. Most commuters only have small variations in their commuter.   If each carpooler has a network of 15 to 25 people they know they can carpool with, they will enjoy the flexibility of a Real Time Ridesharing system, while providing the simplicity and familiarity that is needed to normalize Real Time Ridesharing.   This approach would also allow for a more incremental approach to building a larger community of Real Time Ridesharing. Our hope is that this pilot project can be learned from in order to perfect the model in other communities in the future.