



# altVerto

## Using interventions and community to promote alternative transportation

**"I know I should drive less, but I just don't think about that as I'm about to get in my car."**

### Car culture must change

Between 70% and 80% of transportation in the United States consists of single-occupant vehicles [1]. Excessive car use damages the environment, increases congestion, and contributes to health problems. American car culture continues to worsen, and while public transit provides a viable option for mobility, it is not always an obvious alternative. We seek to decrease single-occupant trips among people who could choose to use alternative transportation.

### Existing services cater to existing users

Potential transit users told us that they need information about transit options and relative costs in order to break their car habits. Existing services that provide this information do so only when users seek out alternative transit options. These services improve the transit experience but do not attract new users.

### Individual coaching can change behavior

Individually coaching potential users is one of the most effective ways to increase public transit use [2]. While effective, this can be too costly for transit providers. altVerto automates many aspects of this coaching program, greatly increasing its reach. Choices, costs, and feedback are provided according to best practices in persuasive technology [3].

## Intervention

altVerto begins with a notification plugin that users are incentivized to install. Whenever they seek directions using their preferred mapping site, altVerto displays the alternative options and associated savings.

	TIME min	MONEY USD	EMISSIONS lbs CO <sub>2</sub>
Bus	19	\$1.50	1.9
Bike	16	\$0.39	0
Car	9	\$1.72	3
Walk	57	\$0	0

## Sustained use

altVerto provides feedback on the historical costs of users' travel choices. This motivates users to choose altVerto as their preferred route planner, and to consider changing how they make regular trips, such as daily commutes.

**Your stats**

- To date: Money saved: \$78.20, CO<sub>2</sub> saved: 813 lbs, Calories burnt: 10,550

**Your groups**

- Pacific Partners Consulting: No new activity
- Green Lake Cyclists: No new activity

**Discussion related to how you travel:** Seattle Cycling, Looking for people who commute Fremont to Queen Anne Today, 10p, Freerange Cycles in Fremont Today, 8:30a

**START A NEW TRIP**

**RECENT DISCUSSIONS**

- What are some viable carpool ideas to get to work? (read more)
- Are trying to organize a bike to work day this week. Does anyone have advice on how to... (read more)
- Have you not enough been to connect the right and wrong practices. This residents, please sign... (read more)

## An iterative, user-centered design process



### Contextual inquiry

We engaged with our target audience to understand how they choose among travel options. A concurrent literature review highlighted the most effective means of motivating people to use alternative transit.



### Ideation

We generated initial ideas based on user needs uncovered in our contextual inquiry. We evaluated these ideas based on the constraints facing transit operators and other stakeholders, and storyboards of our most promising ideas to potential users.



### Validation

We evaluated an experience prototype of the notification system in a week-long diary study. Our intervention-based approach effectively changed user choices and some users became advocates for alternative transit.



### Prototyping

We worked with diary study participants to revise paper prototypes of altVerto. This feedback led to a high fidelity visual prototype and revised feature set.



## Community

Community features in the results entice users to take ownership of their transit experience. As users move beyond annotating and discussing transit routes and options, altVerto becomes a hub for collective action on transit-related topics.

**MT316 Northgate Express**

**Discussions**

Title and author	Last post	Replies
Why doesn't this route go to UW? mackden99	Today 9:45p	5
New buses used on this route starting today tomorrow	Today 5:32p	2
Missed connect @ 330@Northgate BobonrthBus	Yesterday 11:17p	0
Food drive on 7.30a bus -- for my son's school winds	Yesterday 6:07p	7

**SEATTLE CYCLING FORUM**

Thread / author	Last post	replies	views
Good bike repair shop on Capitol Hill? mackden99	Today 9:40p	7	110
Need help figuring out safe bus route to work (Duvick to Fremont)? mackden99	Today 8:20p	4	36
REMANDER: Critical mass this Friday? Seeker	Yesterday 11:17p	14	23
What's your favorite fun ride on the eastside? mackden99	Yesterday 6:07p	38	213
Sign petition to add bike lanes during road widening at DuPont/1st? mackden99	Yesterday 1:47p	1	34
Today's rant about cars? mackden99	Yesterday 11:02a	5	90
Guests coming with kids - best place to rent bikes? mackden99	Monday, 8:30p	2	84
altVerto meetup: Saturday, Arts to Bedbook brewery	Monday, 8:20p	27	148

### Selected references

- [1] Pisarski, A.E. Commuting in America III. Transportation Research News, 241 (2006), 26-29.
- [2] Transportation Research Board. Individualized Marketing: Implications for Transportation Demand Management. Transportation Research Record, 1618
- [3] Wanland, D.J., Portillo, C.J., Holzemer, W.L., Slaughter, R., and McGhee, E.M. The effectiveness of Web-based vs. non-Web-based interventions: a meta-analysis of behavioral change outcomes. J Med Internet Res, 6:4 (2004), (1998), 116-121.