



Montana Fall Transit Training Workshop 2018

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Transit News

Tweets by @OfficialCTAA

cta.org

Latest News

CTAA and The Bus Coalition Urge Congressional Appropriators to Maximize FY 2019 Bus and Bus Facilities Funding

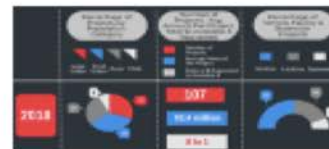


Members of the Bus Coalition (TBC) and the Community Transportation Association of America (CTAA) thank Congress for taking steps in the FY19 THUD Appropriations process to restore funds to federal bus programs. As conference negotiations take place to reconcile the differences between the

House and Senate versions, TBC and CTAA strongly support the higher funding levels included in the House bill, including the \$300 million investment in the competitive grant program.

- [CTAA and The Bus Coalition Urge Congressional Appropriators to Maximize FY 2019 Bus and Bus Facilities Funding](#) (PDF)

Competitive Bus & Bus Facilities Grants: Trends 2016-2018



The federal competitive bus and bus facilities program - Section 5339b - is administered by the Federal Transit Administration (FTA) and delivers crucial capital investment to replace aging buses and facilities. [Download](#)

[CTAA's analysis](#) (PDF)(1.82 MB) of the past three years of competitive grant selections by the FTA.

- [Competitive Bus & Bus Facilities Grants: Trends 2016-2018](#) (PDF)(1.82 MB)

Membership

Already a member? [Login here to CTAA's members' site](#) for exclusive content and membership data.

Not a member? Use the icons below to explore the various types of membership we offer.

Join Now

Rural

Small Urban

NEMT

Specialized

Tribal

Volunteer



Promoting Customer-Centered Mobility Strategies

that advance good health, economic vitality, self-sufficiency, and community

Quick Links



Setting the Context



The Federal Context

Appropriations Update

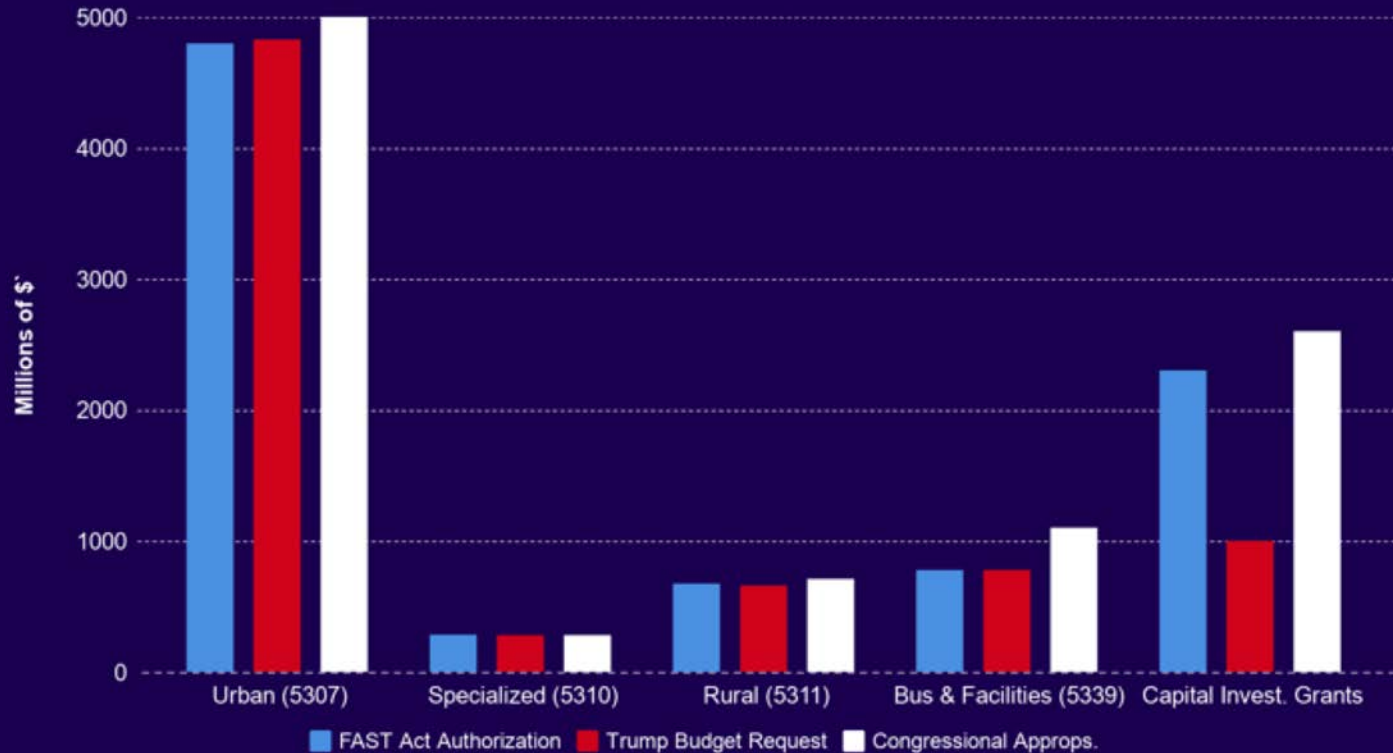
- **DOT appropriations – along with 8 other appropriations bills – delayed until early December, after midterm elections.**
- **Program funding from Sept. 30 – December 7 held at FY 2018 levels**

	House Bill	Senate Bill
Overall FTA	\$13.6 billion	\$13.5 billion
Additional 5307	\$150 million	No increase
Additional 5311	\$50 million	No Increase
Additional 5339	\$350 million	\$400 million
5339 Distribution	Leans More Discretionary	Follows FAST Act Distribution

- **Note: Senate bill includes 1-year ban on transit vehicle purchases from Chinese-owned companies**

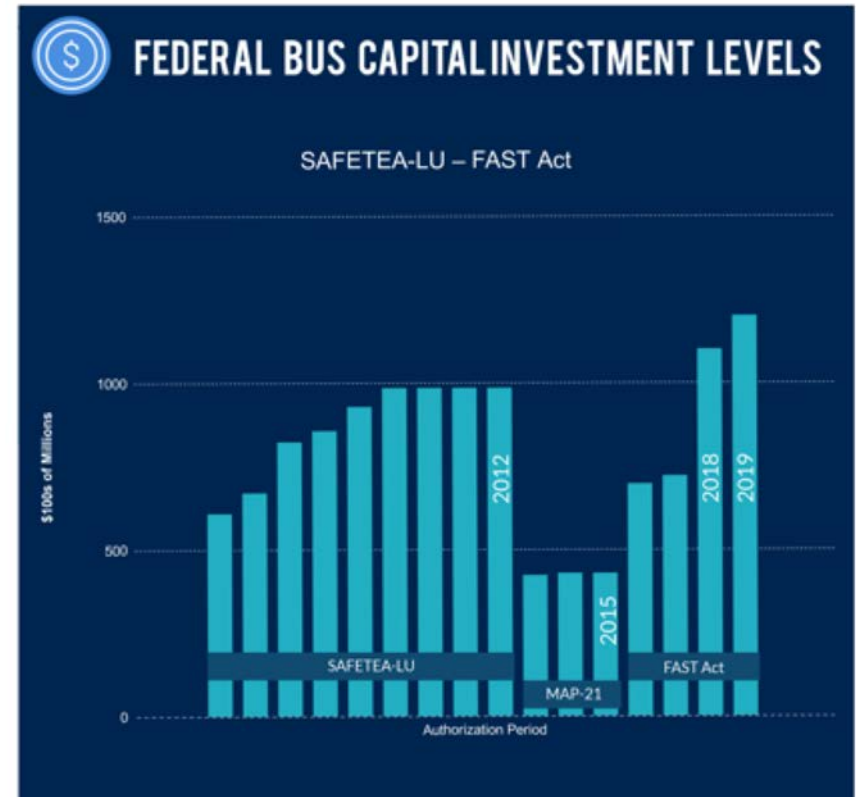
Honoring the FAST Act

FY 2019 Spending Levels



Section 5339 Increases

- Total of \$1.1 billion appropriated in FY 2018
- Compare to \$720 million in FY 2017
- \$654.6 million through formula portion
- \$408 million through competitive/discretionary grants
- \$84.45 million for Low/No Vehicles competitive grants
- Increase matches fixed-guideway state-of-good repair grants



CTAA Analysis – FY 2018 Section 5339 Discretionary Capital Grants

Key Highlights

Total Number of Projects	107
Largest Recipient: 6 recipients shared	\$11,000,000
Smallest Recipient: Mid-Columbia Econ. Dev. Dist.	\$68,000
Average Amount of Grant per Recipient	\$3,422,430
State with Most Recipients: California	12
Vehicle Projects	64
Facility & Equipment Projects	46
Vehicle & Facility Projects	9
Statewide Projects	15
Projects in Large Urban Areas (200,000 or > population)	32 [30%]
Projects in Small Urban Areas (50,000 to 199,000 population)	37 [35%]
Projects in Rural Communities (<50,000 population)	29 [27%]
Projects in Tribal Communities	9 [8%]
CTAA Member Recipients	39

FAST Act Reauthorization

- Shortfalls in trust fund revenues have become untenable
- Discussion on long-term revenue fix starting now
- Need sustained, predictable growth in formula programs
- Establish priorities for regulatory changes in statute



Community Transportation Priorities

- 🕒 Raise the gas tax – move beyond stop-gap measures and general fund transfers by Congress
- 🕒 Explore long-term revenue mechanisms
- 🕒 Maintain & grow transit formula programs
- 🕒 Sensible regulations
- 🕒 Incentivize data-driven, performance-based innovations by transit agencies

Non-Emergency Medical Transportation Policy



- CMS considering state waivers to avoid NEMT benefit
- Will waivers apply only to expanded Medicaid populations or entire population?
- Coalition of NEMT brokers monitoring waiver status
- CTAA exploring federal research of NEMT importance to healthcare outcomes



Coordinating Council on Access and Mobility

An interagency partnership established by Executive Order to improve coordination across federal programs that fund human service transportation.

Transportation Coordination Barriers

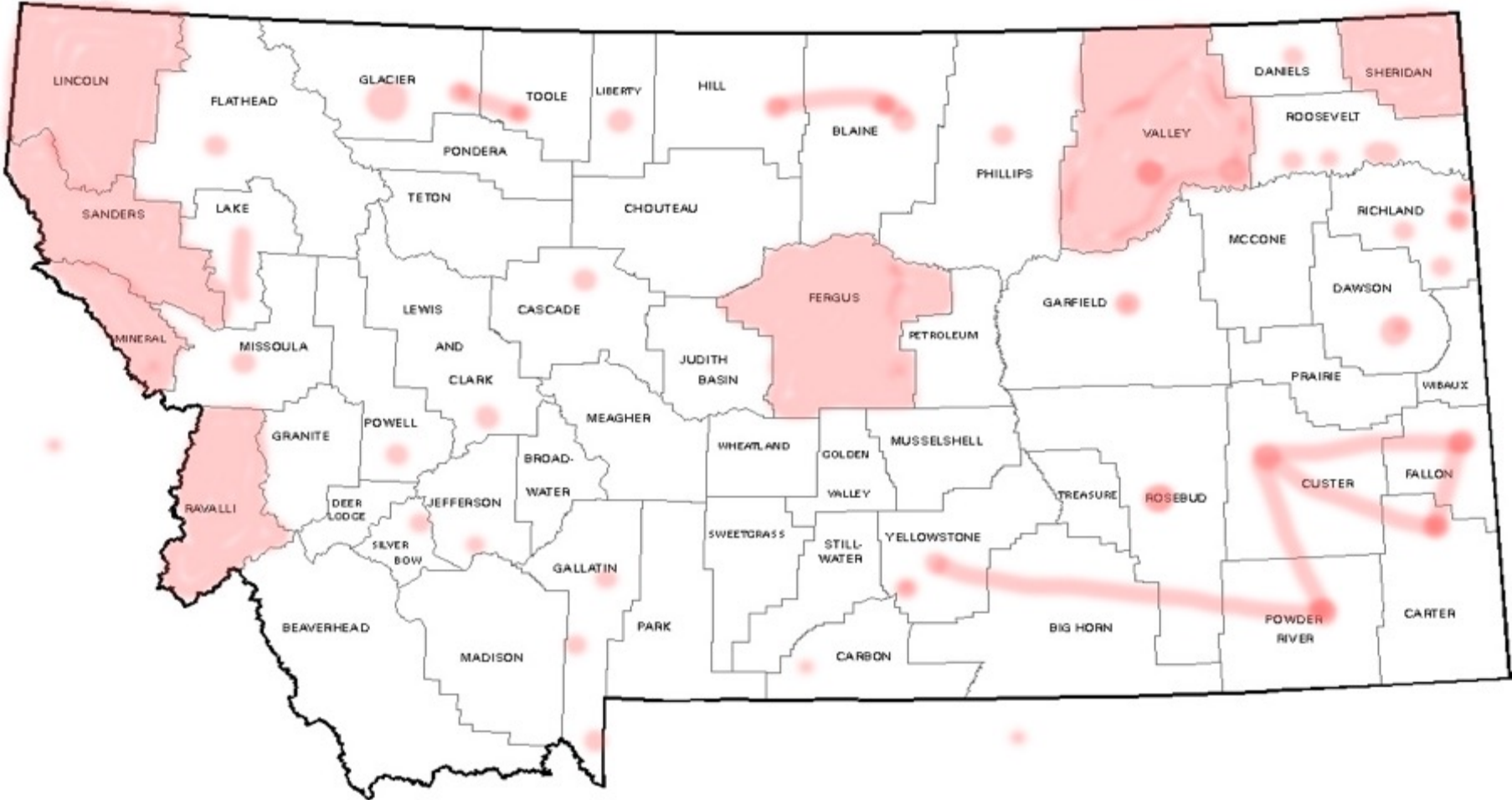
Barrier	Aging Services Stakeholders	Disability Services Stakeholders	Employment and Training Services Stakeholders	Housing Services Stakeholders	Medicaid NEMT Stakeholders	Physical and Behavioral Health Services Stakeholders	Transit Stakeholders	Veterans Transportation Stakeholders
Limited Awareness	●	●	●			●		●
Unengaged Stakeholders		●		●	●		●	●
Program Restrictions			●		●	●	●	●
Insufficient Incentives	●		●	●		●		
Limited Federal Guidance	●				●		●	
Jurisdictional Boundaries				●			●	
Administrative Burden	●				●			
Insufficient Data			●			●		
Cost Sharing Concerns							●	
Inaccessible Systems		●						

CCAM: Next Steps

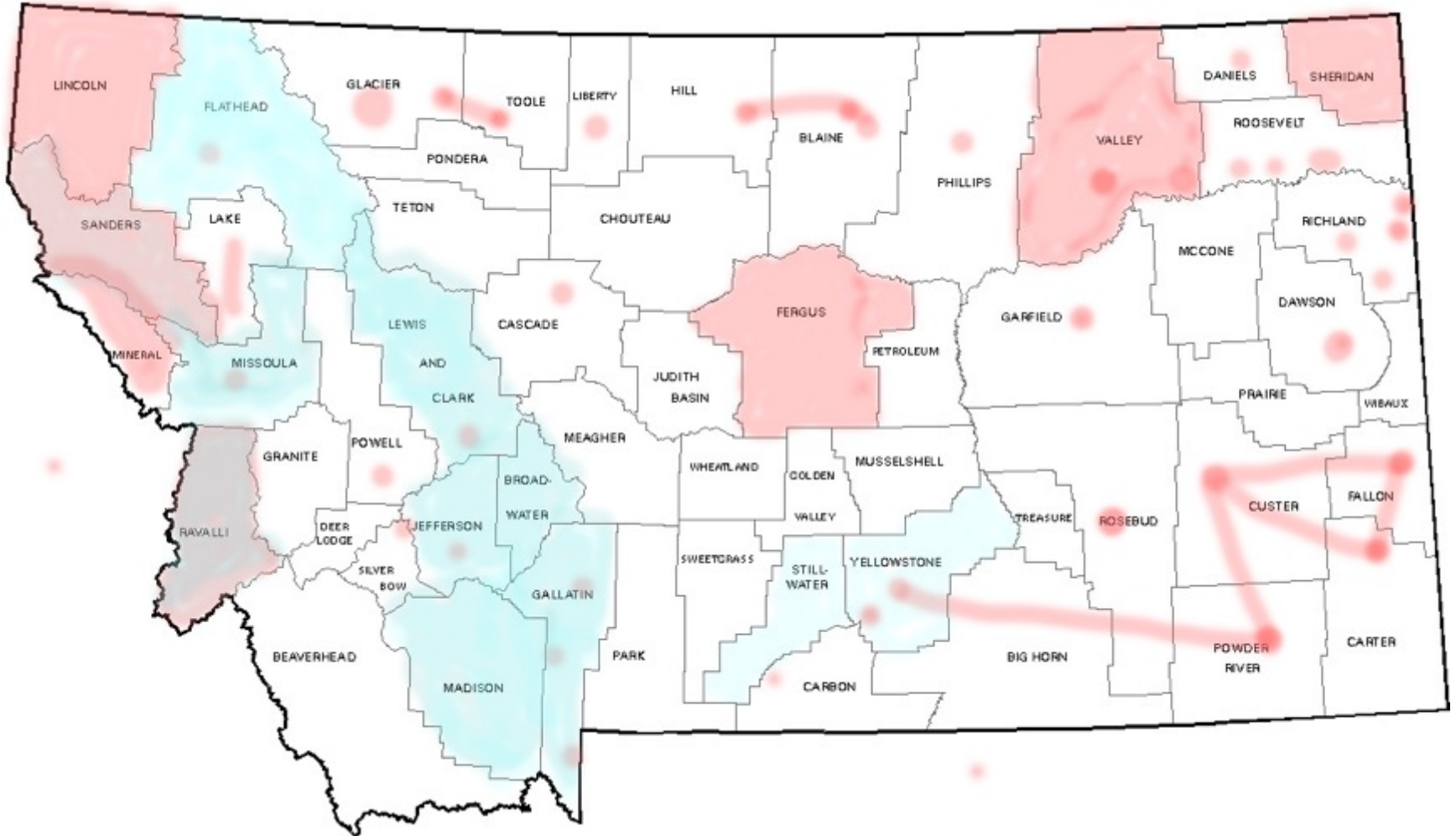
The CCAM will convene federal work groups that will use the focus group findings to develop recommendations for Congressional and agency action.

The Montana Context

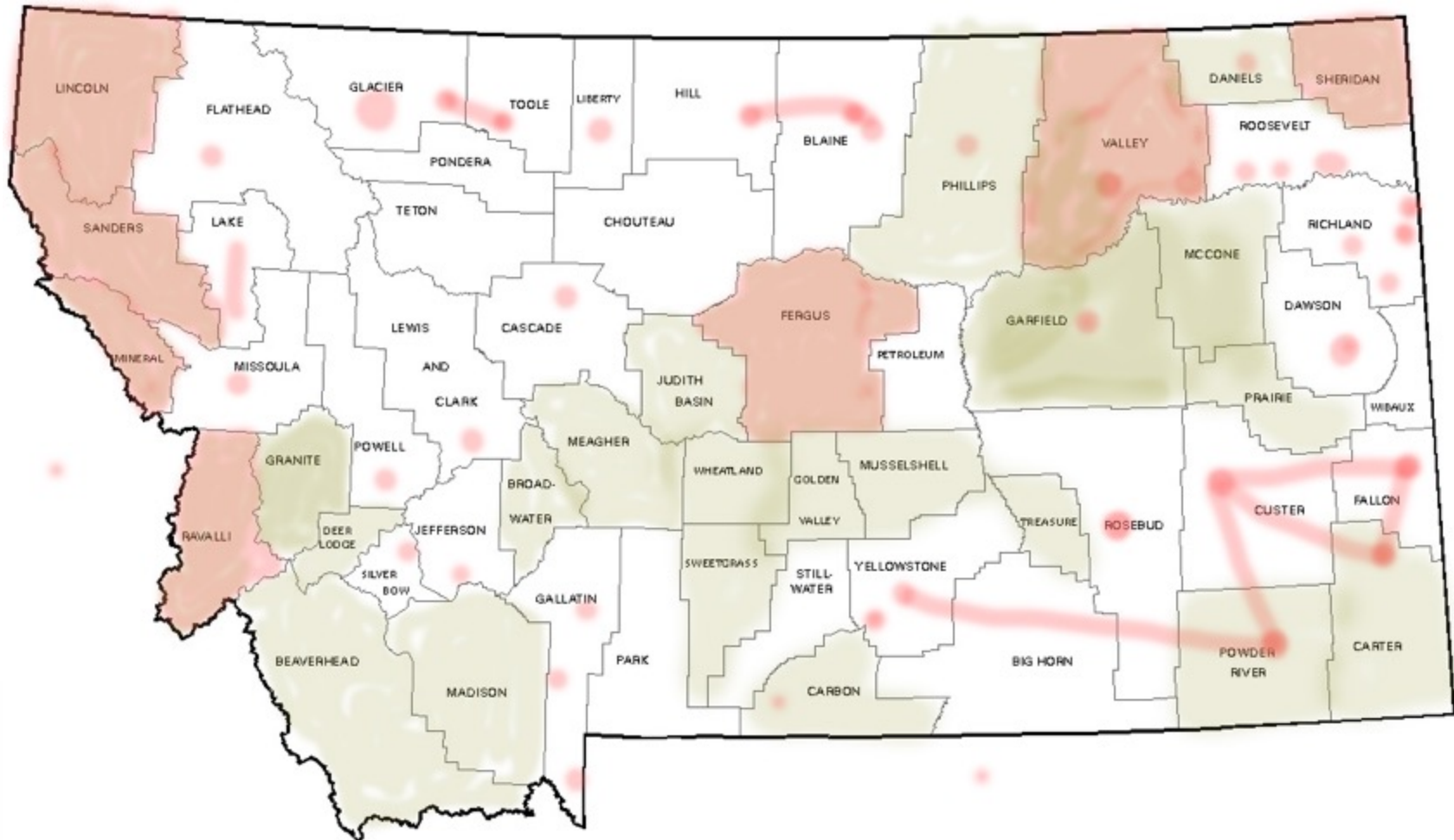
Montana Transit Service Areas



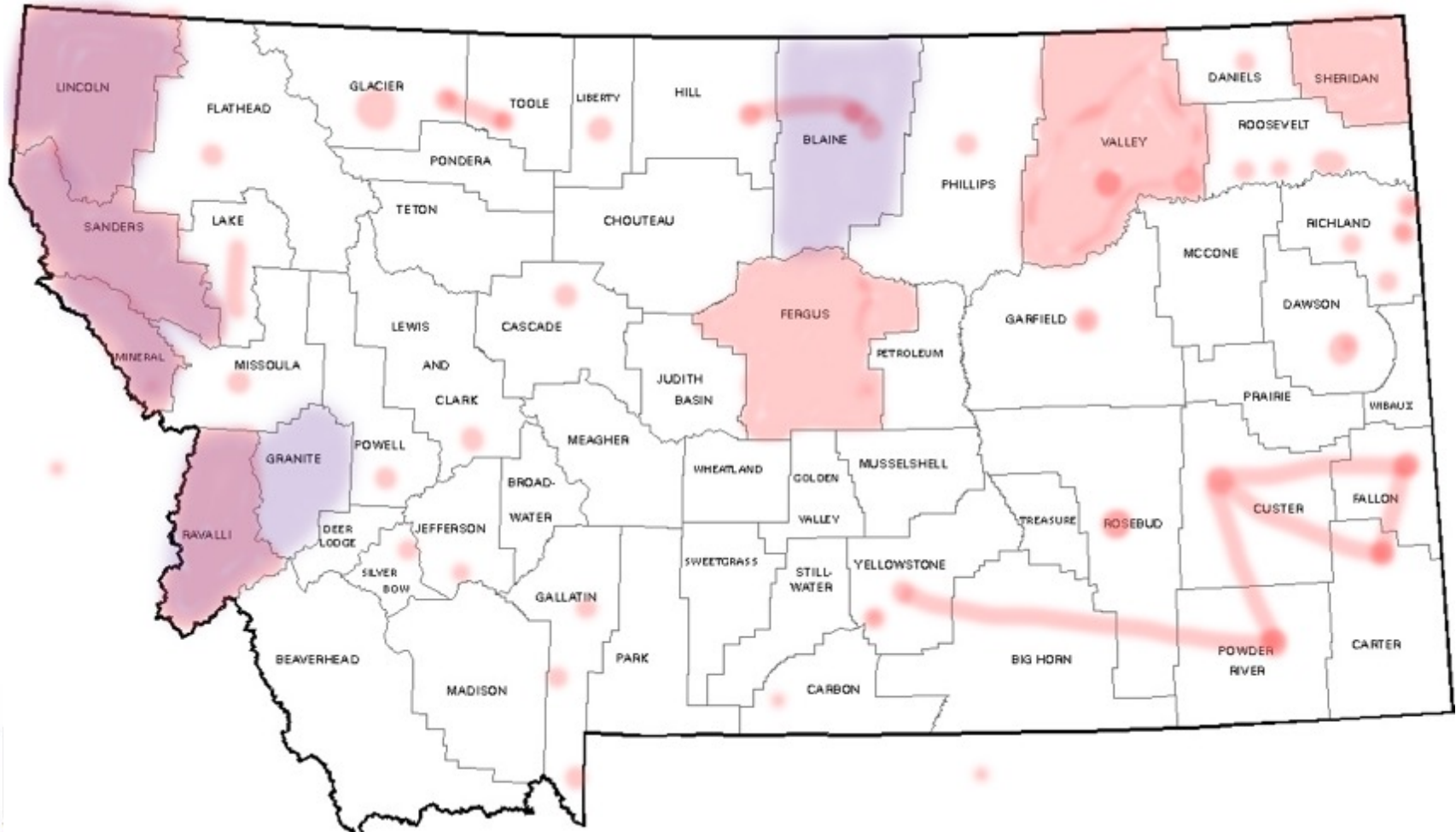
Population Growth $>10\%$ (2012-2016)



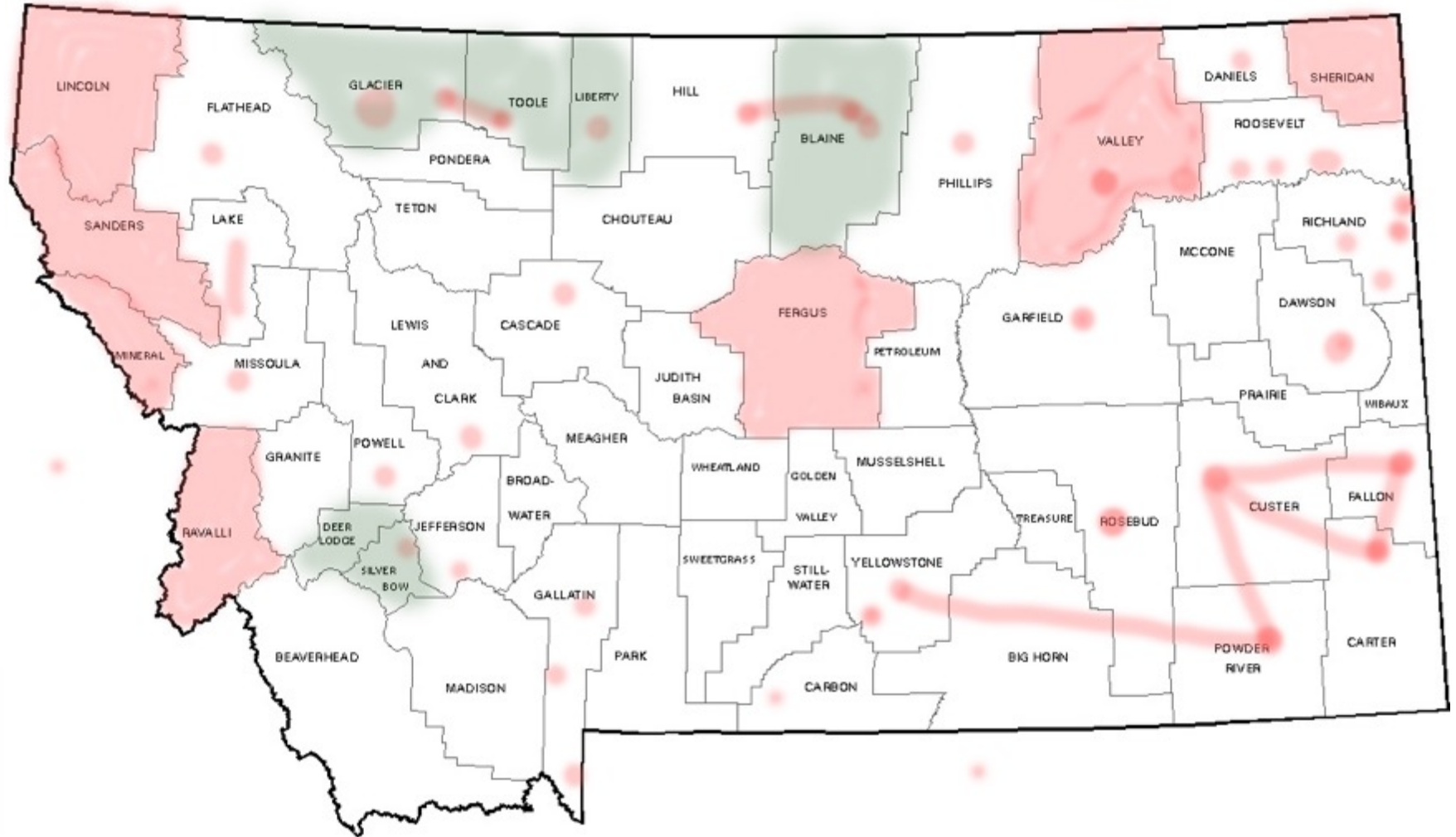
Percentage of Older Adult (age 65+, >20%)



Percentage of People w/Disability (over 18% of population)



Percentage of No-Vehicle Households (>8%)



Hospitals Incurring Readmission Penalties FY18

ST PETER'S HOSPITAL	\$ (313,184)
NORTHWEST SPECIALTY HOSPITAL	\$ (136,904)
ST JAMES HEALTHCARE	\$ (124,863)
KOOTENAI HEALTH	\$ (59,152)
BENEFIS HOSPITALS INC	\$ (52,073)
ST VINCENT HEALTHCARE	\$ (36,666)
COMMUNITY MEDICAL CENTER	\$ (35,958)
NORTHERN MONTANA HOSPITAL	\$ (10,615)
BILLINGS CLINIC HOSPITAL	\$ (6,546)
GREAT FALLS CLINIC HOSPITAL	\$ (1,628)

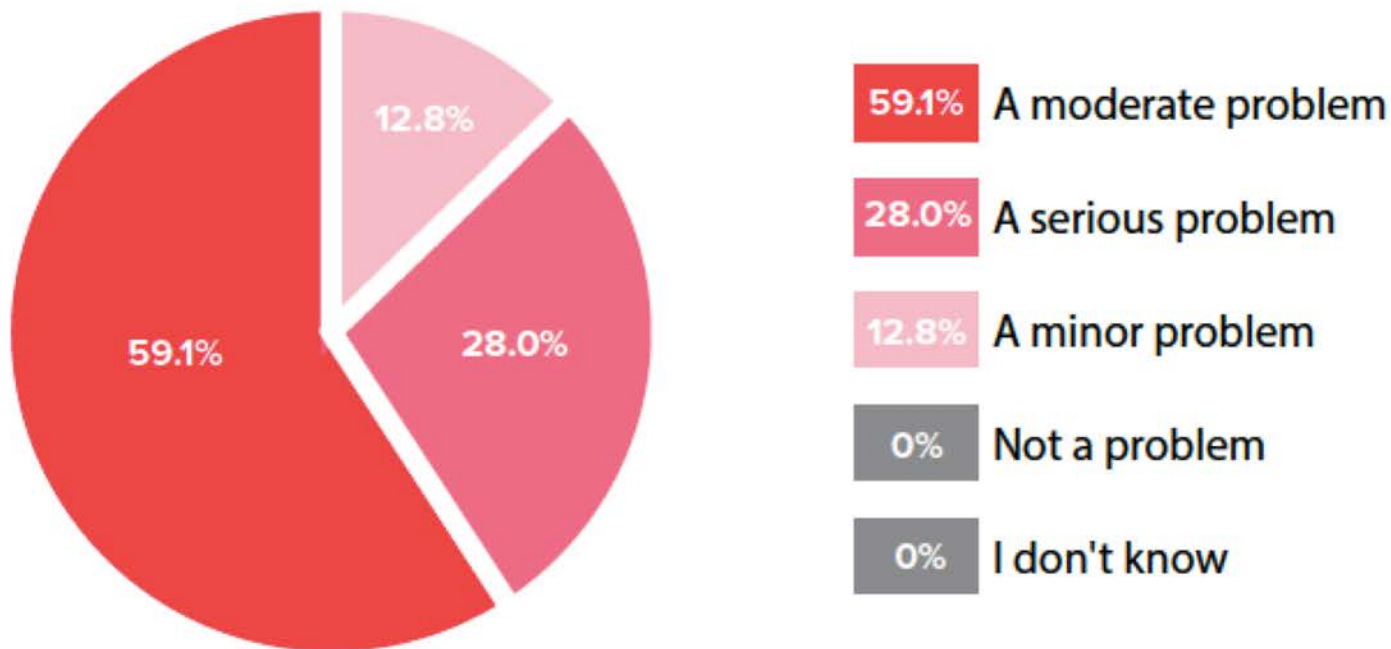
Hospitals with no readmissions penalty:

ST PATRICK HOSPITAL
 KALISPELL REGIONAL MEDICAL CENTER
 BOZEMAN HEALTH DEACONESS HOSPITAL
 P H S INDIAN HOSPITAL AT BROWNING - BLACKFEET THE HEALTHCENTER
 ST JOSEPH REGIONAL MEDICAL CENTER

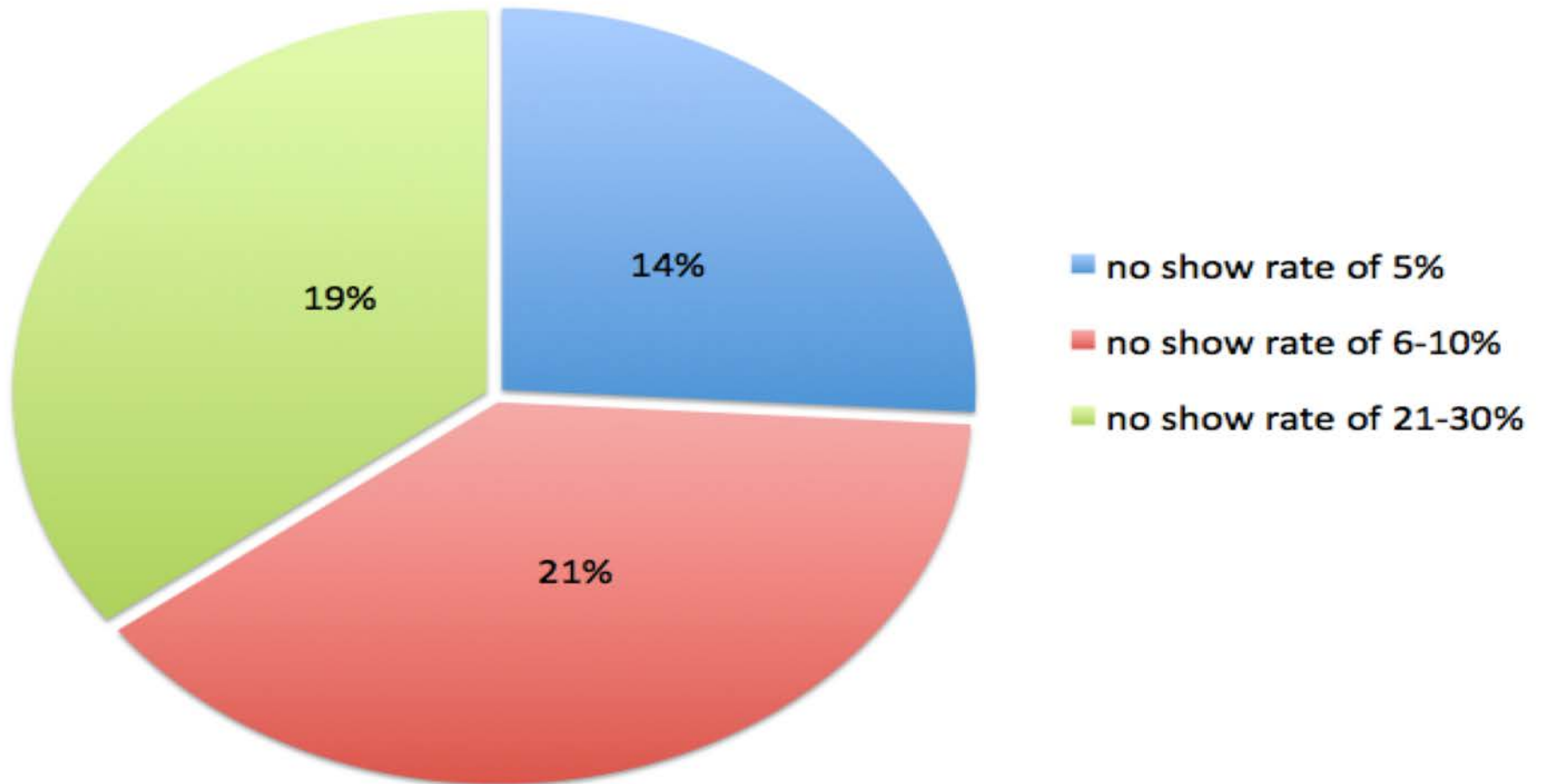
Health Outreach Partners 2017 Scan: 188 HRSA-funded clinics responding:

Figure 1: Missed appointments in health centers

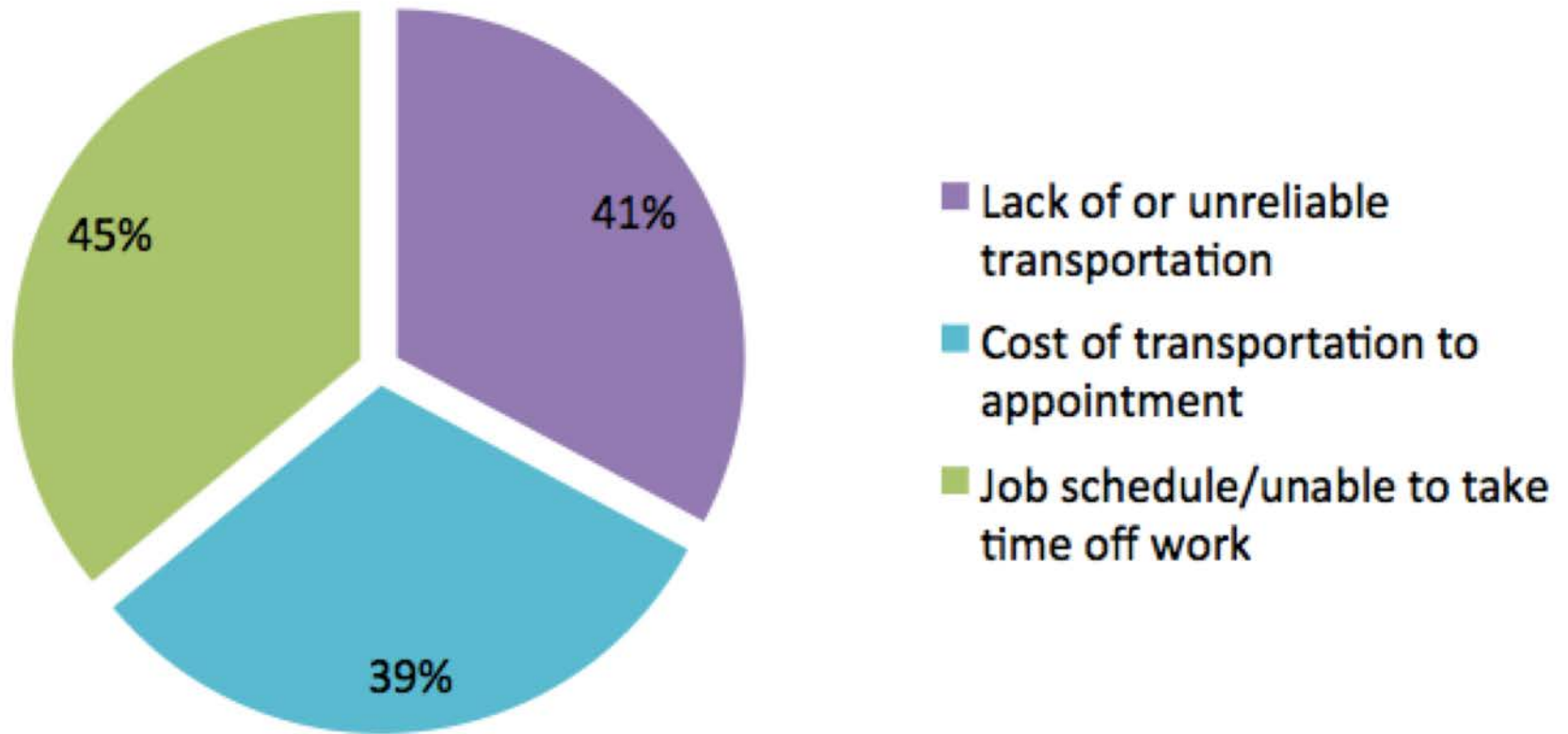
To what extent are missed appointments (i.e. an appointment where the patient does not show up) a problem at your health center or practice?



No-Show Rates: **Rural** HRSA-Funded Clinics



Top 3 reasons for missed appointments



What Other Growing Mobility Needs Do You See?

Transforming Your Organization Into One that Innovates



What stops organizations
from being innovative?

Constraints to Innovation

- Individual
- Group
- Organizational
- Industry/Market
- Societal
- Technological

Individual Constraints

Individual-Level Pitfalls

- You are not challenged to think differently
- You do not have the confidence in your ideas
- You don't have the personal bandwidth to be innovative
- Once you have an idea, you hold onto it, even if feedback tells you to let it go

Sometimes . . .



But sometimes . . .



If I want to be
creative, I need to . . .



**Let in new
information**





Practice Empathy



Have a Listening Buddy





**Have Confidence in Your Idea and
Share it with **Enthusiasm****

Individual constraints worksheet

Group Constraints

Group Dynamics Can be Constraining

- Emotional: Self-monitoring of how I am seen by others
- Cultural: Not sure if what I'm going to say will be well-received
- Environmental: Where I meet and work with others
- Process: How we do our work together as a group

Fear of Criticism

- Easier to criticize than to open up to a new idea
- Group criticism is stifling



Have you created a culture that supports idea incubation?

- Honor people's ideas, allow them to develop
- Withhold judgment
- Create space to explore ideas
- Move indiv. to group ownership

"Blowing out someone else's candle doesn't make your candle burn brighter."

Fear of mistakes

- What if I am wrong?
- What if they judge me?
- Safest way is not to do anything that has risk, not expose yourself

Have you created a “psychologically safe” environment at work?

- Rules for engagement
- Dissent channels



Avoiding Conflict

- Go along with bad ideas to avoid conflict
- Bruised by what has happened in a past conflict situation

Have you created a “psychologically safe” environment at work?

- Encourage different ideas
- Solicit respectful feedback
- As a leader, don't show favor to one idea over another

Group constraints worksheet

Organizational Constraints

Organizational Culture

Organizations are designed to achieve routine outputs, which goes against an organization that might want to continually be open to change

Organizational Permission

The organization isn't structured to be permissive of innovation – innovation is not considered strategic

Resource Constraints

- Don't want to put organizational resources at risk
- Takes extra resources – not willing to dedicate

Risk Aversion

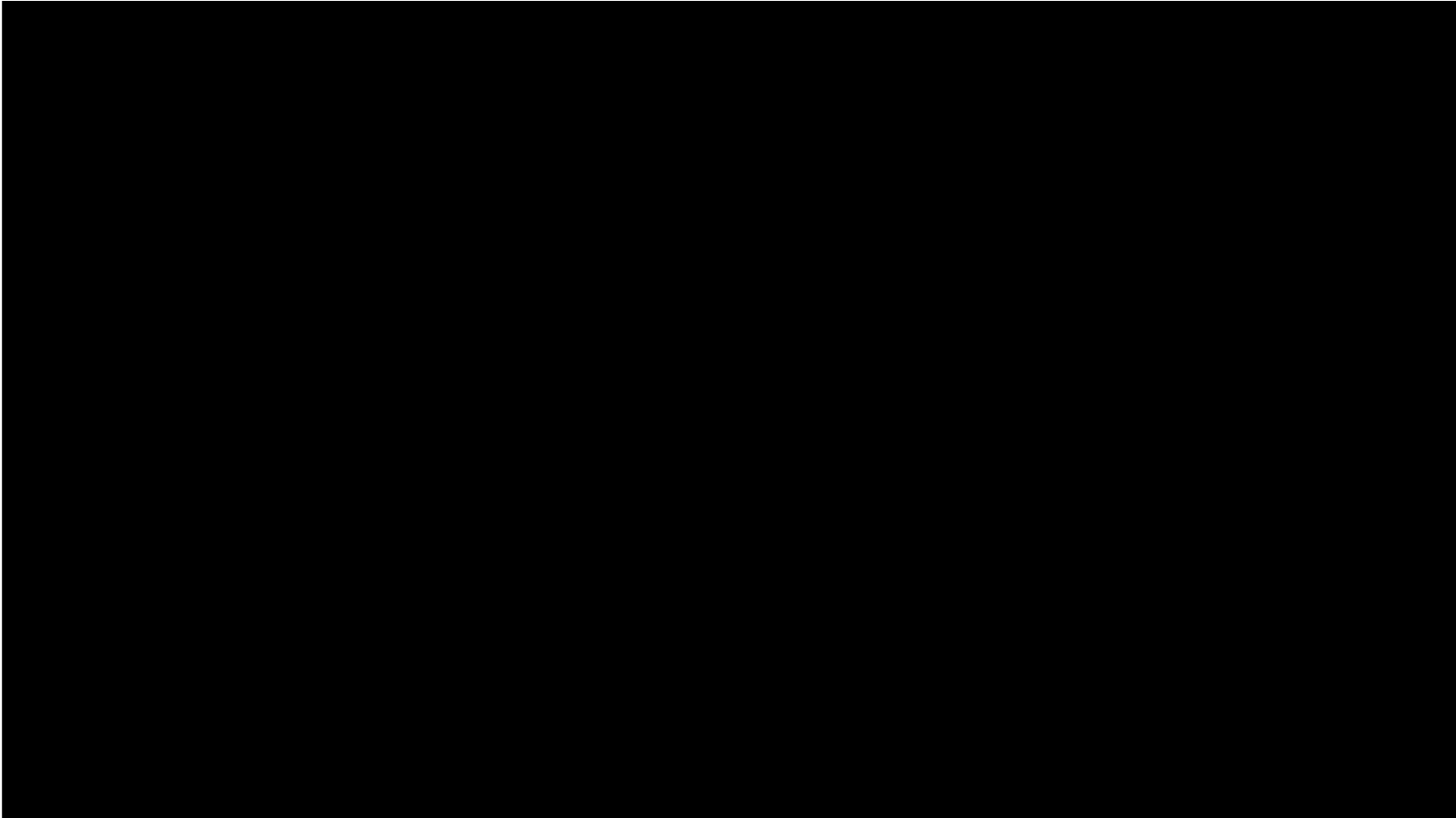
If not making mistakes is part of your culture,
no innovation

“Fail often in order to succeed sooner”

So how does a leader build a
Culture of Innovation?

Mean it! when you ask for
Innovation!





Build a creative environment



Encourage People to Create in Groups



Be comfortable ceding a little control

“In a very innovative culture you can't have a kind of hierarchy of here's the boss and the next person down and the next person down and the next person down because it's impossible that the boss is the one who's had the insightful experience needed to innovate.”

Dave Kelley, IDEO

Give Team Members the Context They Need

- Ensuring innovation serves the organization's mission -- but first they must know the mission
- Ensure they are clear on your strategy

Cultivate dissent: hire people
who don't listen to you . . . at
least not all the time

Inspire Them to Do Their Best Work

Ensure team members

- are competent
- feel empowered and supported
- Are willing to give their best ideas to the cause

Send a Clear Message: Innovation is everyone's job – add this to job evaluation (how well innovate this year)

Organizational constraints worksheet

By building a Culture of
Innovation, you never know
what might happen – Innovation
Can Come from Anyone

In late 2006, a Malawian newspaper first wrote about a remarkable young man from a remote rural village north of the capital city.

Exploring Volunteer Driver Programs



Value of Volunteer Transportation Programs

- Provides more flexibility to transit agency in how/when service is provided
- Can cross jurisdictional boundaries
- Is most likely less costly than demand-response service
- May be easier to recruit part-time volunteers than hire new drivers

Volunteer Program Costs

- Agency administrative personnel
 - Recruit volunteers
 - Request background checks/perform vehicle inspections
 - Schedule rides
 - Process volunteer reimbursement (if offered)
 - Maintain good relationship with volunteers
- Mileage reimbursement for volunteer drivers (if offered)
- Other admin costs: computer software/systems, background checks, and liability insurance

Volunteer recruitment

- Word of mouth
- Community- and faith-based organizations
- Media: social, print, radio
- Major companies: employees providing service hours

Volunteer Reimbursement

One or a combination of these:

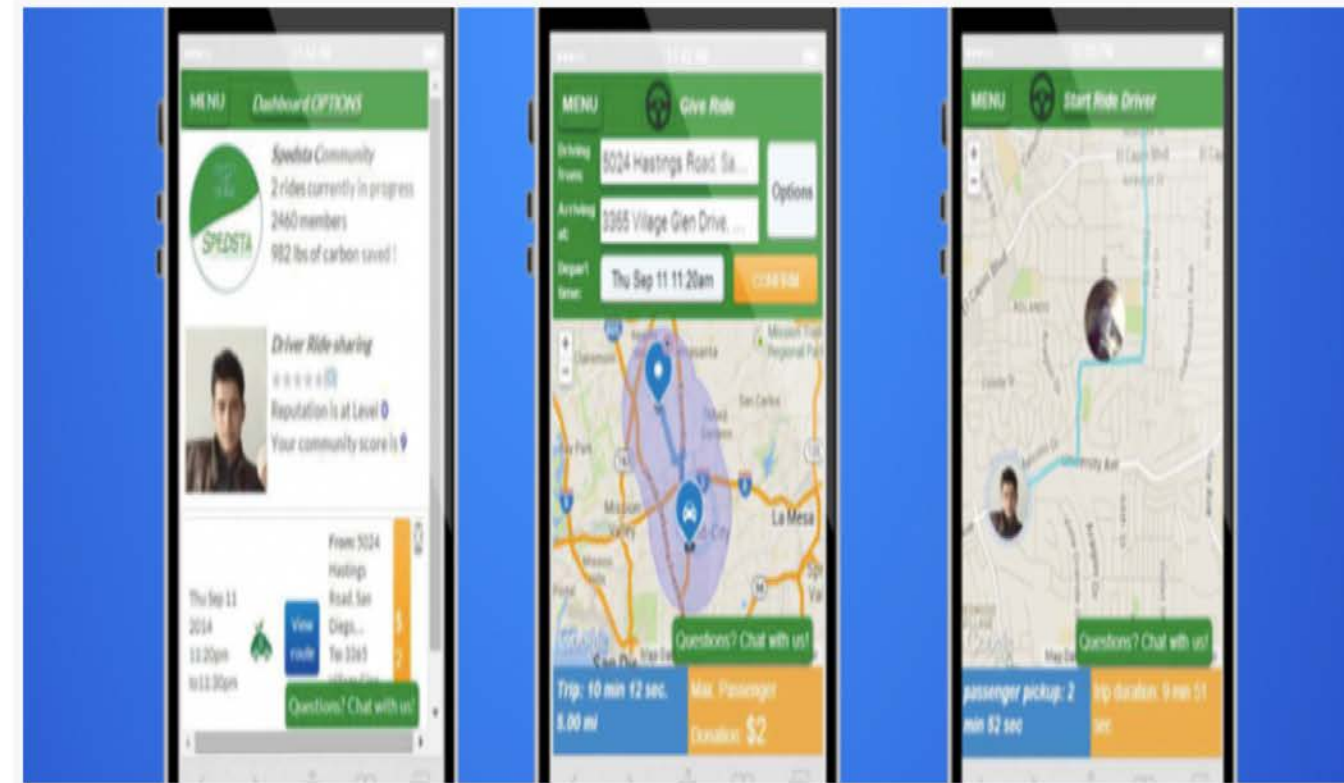
- Per-mile reimbursement (volunteer rate = \$.14, medical rate = \$.21, business rate = \$.545)
- Reimbursement for actual loaded miles vs. total miles
- Meal vouchers
- Gas vouchers/car maintenance vouchers
- Appreciation events
- Public recognition
- This-for-That Swap (e.g., time banking)

Technology

- Ride Scheduler

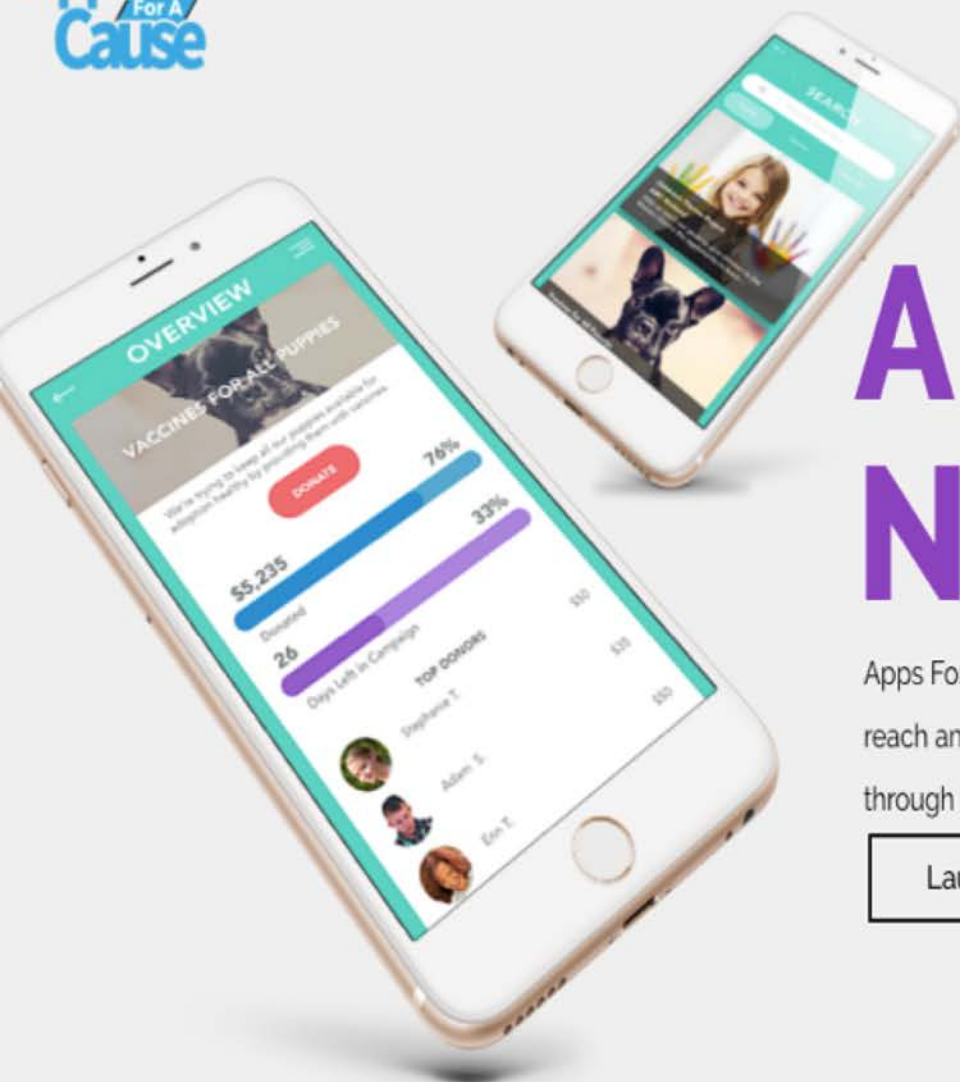
Spedsta Releases Volunteer Driving App on Apple Appstore

November 1, 2015



Spedsta Senior Transportation and Ridesharing has announced their Dispatch and Ride Scheduling software has been released to the Apple App Store. Senior organizations such as senior centers, senior homes and other elderly care centers will now be able to coordinate rides for their senior community directly through **Spedsta's IOS mobile app**.

Senior organizations commonly provide fixed weekday hours for their elderly members to book rides with their ride coordinators and managers. While this service is welcome by their communities, the lack of flexibility in hours and advanced scheduling limit the usefulness of the service to some people. By using a mobile app now ride coordinators have the flexibility to monitor and book senior transportation rides on a more dynamic basis. For more information please see: <http://spedsta.com/landing-page-Senior-Transportation.html>



APPS FOR NONPROFITS

Apps For a Cause is a \$2M program by KaJ Labs to help nonprofit organizations reach and engage their supporters, improve operations and raise awareness through their own custom built *mobile* application all pro bono.

Launch Event

Cost Savings: Volunteer Driver vs. Demand-Response (Minnesota study)

Table 1	Average length round trip (miles)	Average cost by paratransit/taxi	Cost per round trip by Volunteer
	81 mi.	\$118	\$71
	100 mi.	\$143	\$70
	73 mi.	\$108	\$73

Table 2	Volunteer Driver Program Average savings per round-trip compared	Annual savings compared to other to other options options
	\$47	\$226,896
	\$43	\$615,246
	\$73-\$185	\$584,000 - \$1,480,000
	\$20	\$191,756
	\$18-\$24	\$74,920 - \$101,800
	\$33-\$185	\$64,000 - \$352,000

Covering the Costs of a Volunteer Driver Program

One or a combination of these:

- Federal/state transportation funds
- Older Adults Act funding (when serving seniors)
- Contracts for service (e.g., Medicaid transportation, disability services agencies)
- Rider contributions (per-trip or based on group of trips)
- Community donations/fundraising

Characteristics of Successful Programs

- Attention to drivers: treat them like customers too!
- Transparency
- Ease of entry and flexibility once committed
- Excellent risk-management program
- Support a culture of volunteering with other organizations
- Identify affinity-based potential drivers

Steps to Deciding to Implement a Volunteer Driver Program

- Assess the availability of volunteer drivers
- Determine the administrative cost to implement the program
- Identify the gaps in service that could be filled
- Identify funding sources to cover administrative costs and volunteer reimbursement (if offered)

Resources

- [Volunteer Driver Recruitment and Retention: A Handbook Prepared by The National Volunteer Transportation Center](#)
- CIMA Volunteer Insurance –
<http://www.cimaworld.com/nonprofits/cima-volunteers-insurance/>
- National Volunteer Transportation Center

Never doubt that a small group of thoughtful committed citizens can change the world. Indeed, it is the only thing that ever has.

– Margaret Mead

Reaping the Fruits of Inclusive Planning with Older Adults and People with Disabilities



National Center for Mobility Management

Lessons from Transit Planning 4 All

- Program sponsored by the Administration for Community Living, U.S. Dept. of Health & Human Svcs
- A series of pilot projects across the nation, each seeking to increase inclusion in transportation planning and services for people with disabilities and older adults.

Inclusion

The adoption of proven, sustainable, scalable, and replicable models that include participation of people with disabilities and older adults in the design and implementation of coordinated transportation systems that are responsive to their needs.

Goal

Reaching out to seniors and people with disabilities to ensure their voices are active in transportation planning

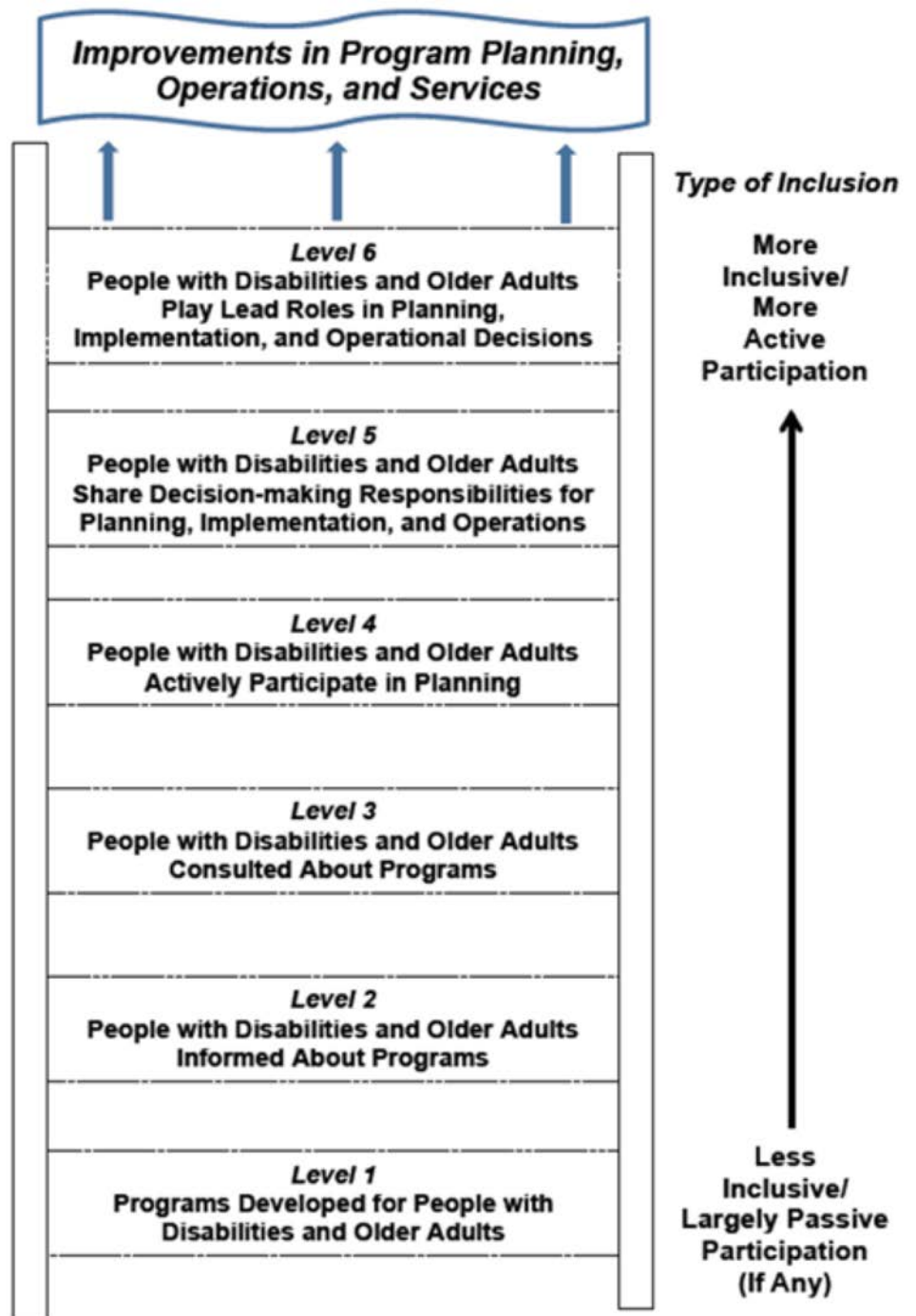


Because if we can provide *quality and timely* transit for seniors and people with disabilities, we can for everyone.

What's In It for Your Agency

- Increase real input into transit plans: 1 agency had 54% of input on 5-year plan from older adults/people with disabilities
- Identify mobility improvements your agency wasn't aware were needed
- Understand the small tweaks that can improve the rider experience
- Help agencies prioritize where to put limited resources
- Build loyal supporters within the community

A Continuum of Participation



Inclusive Planning Toolkit: Planning an Inclusive Process

Assessment Before Planning

Ask:

- “What transportation needs exist in the community?”
- “How do you identify and prioritize those?”
- “How inclusive is transportation planning now and how does it identify transportation priorities?”
- “Are we willing to do things differently, if that’s what we hear?”

Perception Versus Reality

Check yourself by asking:

- Do participants (people with disabilities and older adults) feel included?
- If meetings are open and advertised, do participants attend?
- Is a meeting the best type of forum for being fully inclusive?
- If participants attend, are their opinions sought and heard?
- Is there a system in place to track whether participant suggestions are vetted and implemented?
- Do participants share in the decision-making process? Do participants play leadership roles in your organization or partnership efforts?

Define Success

- It is important for the parties involved – participants, partners and staff – to reach consensus on an initiative's goals, think of success along a scale where the ultimate objective is one measure of success and interim milestones are recognized as significant achievements.
- The viewpoints of all involved in the initiative, especially riders and potential transportation users, should be considered in defining success. Even if the ultimate goal of the initiative is not achieved, the engagement of diverse participants in the transportation planning process and their commitment to continuing involvement are significant steps in inclusive coordinated transportation planning.

Realistic Expectations

- Barriers to an inclusive transportation planning initiative's ultimate success are inevitable
- To keep all engaged, identify and celebrate interim milestones
- Build trust and commitment so that participants and key partners understand that change may be slow and incremental, but that staying the course will lead to real improvements.

Inclusive Planning Toolkit: The Outreach Process

To whom should you reach out?

- Start with people with disabilities and older adults
- Consider outreach to specific transportation-challenged populations in your region, such as veterans, low-wage workers, students, non-English speaking individuals, new immigrants, and refugees
- Consider also whether there are groups within any population with particular pressing needs, such as people who have audial or visual impairments

Get Out and Talk to 'Em

- Get on the Bus
- Surveys
- Coordinated Mobility Council Meetings
- Five Year Plan Workshop
- “Meeting in a Box”
- Multiple meetings “Oh, it’s you guys again”

Also . . .

Engage a smaller cadre of committed participants who form an advisory group/expert panel that meets regularly throughout the project and assumes leadership roles in the inclusive planning process.

TriMet's Inclusive Planning Process



Inclusive Planning Toolkit: Design Your Meetings

Set the room to meet the purpose

- Planning small group work? Set tables around which they can group
- Seeking innovation? Set the room to be “playful”
- Fostering equality among partners? Circles or hollow squares with no apparent “head of the table”

Adult Learning Styles

- 1) **Visual.** Learn best when things are presented graphically or can see them written
- 2) **Aural.** Learn best when they hear the information
- 3) **Print.** Learn information best by writing it down
- 4) **Tactile.** Learn best by doing something
- 5) **Interactive.** Learn best when they discuss concepts
- 6) **Kinesthetic.** Learn best through movement (e.g., role

play)



7) **Human stories** reinforce what you are saying

Inclusive of People with Disabilities

Wisdom from an experienced facilitator:

It is nearly impossible to successfully run a meeting AND assist participants with a variety of disabilities engage at a meaningful level.

Strategies for Participants who use a mobility device

- Is the room accessible (e.g., elevator access)
- Do they have space to maneuver in the room?
- Is there a blank space at the table (e.g. no chair) to welcome anyone who uses a wheelchair?

Strategies for Participants who have a visual impairment

- Allow for twice the amount of time to complete a workshop as usual to allow for reading and repetition of ideas
- On request, print out PowerPoint/ visuals so people can have full size copies in front of them
- Repeat and recap often. Also group topics to make ideas to memorize shorter
- Bring materials on a thumb drive so materials can be accessed by any devices a participant has.

Strategies for Participants who have a visual impairment

- Assign staff to sit with people so they can quietly ask to remind of items that have been discussed/ strategies on this list
- Record meeting so they can listen and provide feedback later
- Call afterwards, ask for additional ideas and ways to make the process better
- Repeat, repeat, repeat

Learning from Each Other

Learning in terms of inclusive planning means listening to—and learning from—others. True inclusive planning is based on participant engagement and leadership. Professionals and participants alike must approach inclusive planning with an openness to learning from others.

Inclusive Planning Toolkit: Track Results

Track Inclusive Performance Over Time

- Set up a system to collect objective data. You'll want to routinely and regularly collect measurement data.
- Track both inclusiveness as well as program results.
- Share the results with stakeholders to let people with disabilities and older adults know that you care about their involvement.

Lessons Learned

- It takes a productive pause to incorporate inclusiveness into process
- Once empowered, partners take ownership of many action items
- A good partnership name and logo are a valuable investment
- Sustaining partnerships is more time intensive than making them
- Diverse partnerships provide new windows into community opportunities

It's harder and takes more time than initially anticipated.



Technology and Mobility Management



Select Technology for Bus Operations

Value of Ride Pilot

- For service providers:
 - Ready-to-go system
 - Easy to learn and use
 - All your key data is in one place
 - Web-based, so no software to install on your workstations
- For coordinating agencies:
 - Can support many small providers with single solution hosted on a single server
 - Provisioning an environment for new agency can be done quickly
 - Facilitates collaboration across agencies

Ride Pilot: Oregon and Utah

- Free, open source software for scheduling and dispatching rides
- Originally developed for Ride Connection (Portland, OR) in 2010
- Currently being improved by Utah Transit Authority through Cambridge Systematics
- Tracks key elements that transportation providers need including:
 - Customers
 - Drivers
 - Vehicles
 - Trip requests
 - Recurring trips

- Highly customizable:
 - Each agency within a RidePilot deployment can customize how system works based on its operations
 - For example, each agency can specify its driver compliance rules and vehicle maintenance schedules
- Source code at <https://github.com/camsys/ridepilot>

UTAH RIDE LINK

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[Local Coordinating Councils ▾](#)
[Vehicle Resources ▾](#)
[Mobility Projects ▾](#)
[Travel Training](#)
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RidePilot News

We have updated the live RidePilot server to iteration 3. This update includes a new driver availability system and a mobility configuration matrix for customers and trips.

We are currently in testing iteration 4. This update will include some clean up from previous iterations, added some additional search options and additional reporting options. This iteration is expected to go live by the end of April 2018.

RidePilot Link



RidePilot Project History

Purpose

The purpose of this project is to implement a Computer Aided Scheduling and Dispatch (CASD) software system to meet the needs of small scale human service transportation agencies. RidePilot; an open source, web-based scheduling, reporting, and dispatch application initially developed by Ride Connection in Portland Oregon, was identified to fill this need.

Within the human service providers industry, transportation remains one of the biggest

RidePilot Training Videos

[RidePilot Iteration 3 Training](#)

[RidePilot Iteration 2 and User Training](#)

RidePilot Documentation

This section contains the most up-to date user's guide, cheat sheets and screenshots of the different tabs within RidePilot

RidePilot Documentation

This section contains the most up-to date user's guide, cheat sheets and screenshots of the different tabs within RidePilot.

User's Guide

Cheat Sheets

- [Driver Availability](#)
- [Driver Compliances](#)
- [New Customer](#)
- [New Driver](#)
- [New Run](#)
- [New Trip](#)
- [New User](#)
- [New Vehicle](#)
- [Subscription Run](#)
- [Subscription Trip](#)
- [Vehicle Compliances](#)
- [Vehicle Preventative Maintenance](#)

Screenshots

- [Customer Tab](#)
- [Dispatch Tab](#)
- [Drivers Tab](#)
- [Driver Availability](#)
- [Report Tab](#)
- [Runs Tab](#)
- [Trips Tab](#)
- [Vehicle Tab](#)

Information Request

For more information in becoming a partner with UTA on the RidePilot project please contact our group at:

Email: [Coordinated Mobility](#)

Phone: (801) 287-5333



Route Planning Software: Remix

Central Kentucky 2

Filters ▾

- GTran Blue
- GTran Red

2 lines & 3 vehicles
\$535.4k / year
Within 0.25 mi of stops:
5,094 population
2,909 jobs



Poverty

People per square mile falling below the nation-wide poverty level. American Community Survey, 2016.

> 5,000	people
2,000 - 5,000	people
1,000 - 2,000	people
500 - 1,000	people
250 - 500	people
100 - 250	people
< 100	people

On-Demand Rides

- Technology once thought reserved for urban areas is being applied in less dense communities
- Definition of “on-demand” in more rural setting yet to be determined

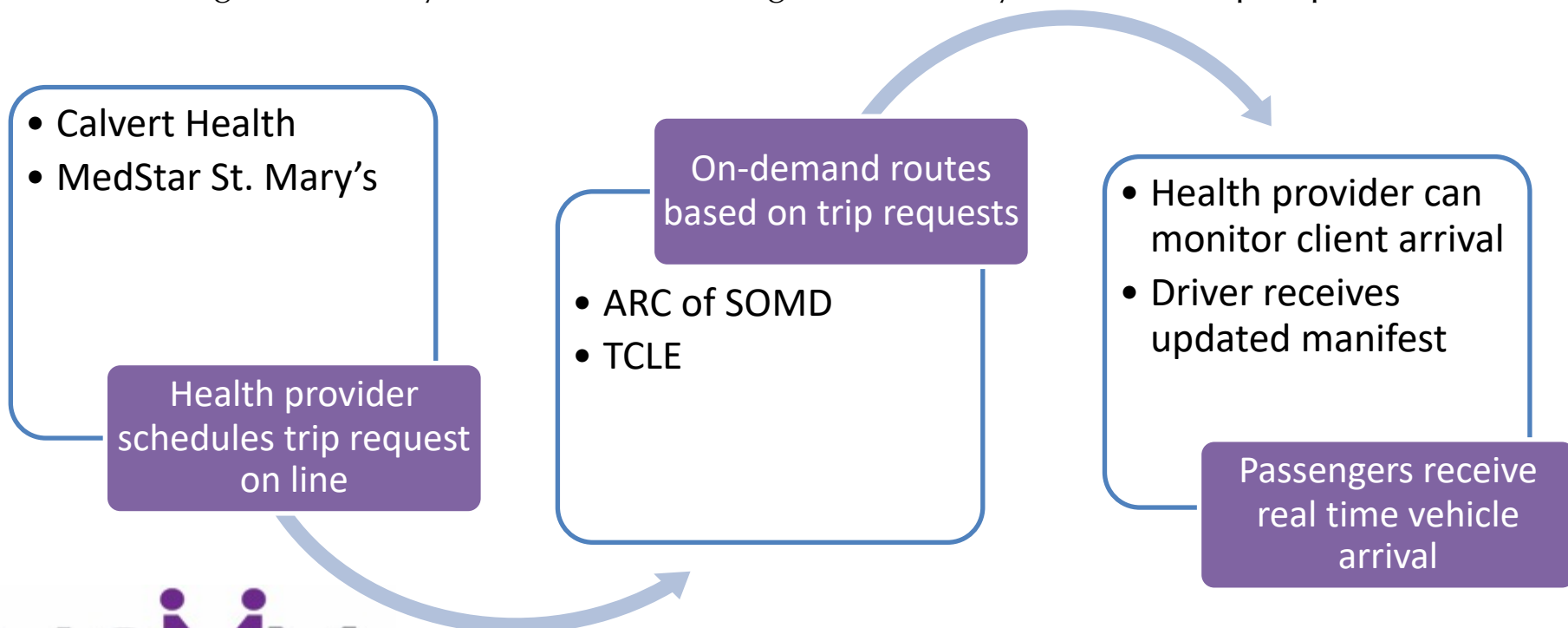
Pantonium Bus-Hailing App

- Being piloted by Belleville Transit, Ontario, Canada (pop. 50,000)
- Allows customers to summon a bus to their nearest bus stop, routes bus to skip empty stops
- Moving late-night bus route to a ride-hailing model using "route optimization engine," which processes data in real time, pulling together the location of the bus, traffic conditions, destinations and user requests
- Via website, riders schedule a ride. Software then processes that data — constantly updating itself to optimize all scheduled rides — and maps the best route to get all riders to their destinations as quickly as possible.
- App sends riders email confirmation notices and simultaneously sends the pickup information to the bus driver via a tablet.

Southern Maryland “Wheels to Wellness” Project



6 month low cost effort to test the viability of using real-time dynamic routing software in a rural setting to efficiently schedule reoccurring and same day healthcare trip requests.



Serving People with Disabilities and Older Adults

Communications Tablet

Knoxville-Knox Community Action Committee

- The problem: communication between transit operators and riders with disabilities and older adults was a barrier to inclusive services. Riders did not feel comfortable traveling independently on the community buses, and transit drivers did not feel comfortable interacting with the diverse range of potential passengers
- The solution: A tablet-based application that facilitated communications between riders and transit personnel

Beacon Technology

Allows visually impaired riders to more easily find bus stop

How Bus Stop Beacons Work



A rider with a visual impairment (or any rider) gets within range of a transit stop.



The stop has a Bluetooth beacon installed that is constantly emitting a signal unique to that stop.



The rider's smart phone uses METRO's app to detect the Bluetooth beacon and present stop specific info using the phone's accessibility features.



The rider gets on-board when the transit vehicle arrives.

Select Technology for Ridesharing

Vanpool Technology: iCarpool app

80% of vanpools have excess capacity with two or more empty, unoccupied seats on every trip. Here's how this works:

1. Potential occasional vanpool riders register with iCarpool app
2. When they want to ride, they log on, are matched and notified when a ride is available, and book the ride
3. Meet vanpool at existing vanpool stops
4. Cashless payment at the end of each ride are applied to rider accounts
5. GPS-based data collection happens for every trip and is available via monthly reports provided by iCarpool.

Autonomous Vehicles

Pilot Projects

- Contra Costa Transportation Authority and Bishop Ranch
- Florida: Babcock Ranch, Gainesville, Tampa, Orlando
- Texas: Arlington, Frisco, Houston
- Nevada: Las Vegas – shuttle and ridehailing
- University of Michigan
- Villages Golf and Country Club, retirement communities in San Jose, CA, and near Orlando, FL.
- PLUS testing on roads in Arizona, California, Pittsburgh and Atlanta

Mobility as a Service

Transportation Equity = Accessible Vehicles and Interfaces

Some good signs for older adults and people with disabilities:

- Shuttles are physically accessible
- Some work on accessible interfaces
- Unknowns: commitment and cost to serve people who need assistance

Mobility as a Service Platform

Multimodal and sustainable mobility services addressing customers' transport needs by integrating planning and payment on a one-stop-shop principle

Multimodal Transport and Shared Mobility

+

Multimodal Traveler Information

+

Integrated Booking/Ticketing/Payment



Rural Household

1 car, 2 adults, 1 child, Walkscore = 0

Rural Mobility Budget

Vanpool	\$ 1,500
Carshare	\$ 480
Taxi	\$ 480
Guaranteed Ride	\$ 30
Member Support	\$ 146
Volunteer Driver Revenue	\$ (400)
Vanpool Program Subsidy	\$ (600)
Annual Total	\$ 1,636
Monthly Payment	\$ 136