2023 SFT Webinar Series Sponsors

NAFA
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CONTEST

Applications now open for the 2023 **Green Garage Contest.** Start yours today!

Deadline: Nov. 10

Upcoming Webinars

SFT Webinar:

- **December 13th: Renewable Fuels to Meet Carbon Reduction Goals**

Product Feature Webinars:

- **November 8th: Driving Beyond B20: How Fleets Are Accelerating Their Decarbonization Efforts With Biodiesel**
- **December 14th: Sourcewell—Fleet Electrification Learning Session**
- **TBD: Kempower--Cutting-edge EV charging technology with customizable solutions**

Format

- **Q&A at the end**

- **Submit questions and comments in the "Chat"**

- **Scheduled for 2:00p-3:15p**

- **Handout**

- **Recording**

SUSTAINABLE FLEET TECHNOLOGY WEBINAR SERIES 2023

Sessions through December 13, 2023

SUSTAINABLE FLEET TECHNOLOGY CONFERENCE & EXPO 2024

Raleigh Convention Center Late Summer/Early Fall 2024

https://www.sustainablefleetexpo.com/

NC CLEAN ENERGY TECHNOLOGY CENTER
Celebrating 35 Years

NAFA FLEET MANAGEMENT ASSOCIATION

Sourcewell

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

North Carolina State University
NC Clean Energy Technology Center
Clean Transportation Program
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Today's Speakers

INVERS

Rudy Six
INVERS
CEO
Rudy.Six@invers.com

Altec

Frank Dean
Altec
Business Development Manager Green Fleet
Frank.Dean@altec.com

COUNTY of VENTURA | 150 YEARS

Robert Crawford
County of Ventura CA
Administration Manager GSA
robert.crawford@ventura.org

SRP Delivering water and power®

Mike Heath
Salt River Project Transportation Services
Fleet Design Specialist
Mike.Heath@srpnet.com

NC CLEAN ENERGY TECHNOLOGY CENTER
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NAFA FLEET MANAGEMENT ASSOCIATION

Sourcewell

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Motor Pool Management for Today's Diverse Fleet
November 08, 2023

2:00-2:07 **Rick Sapienza, NCCETC**--Introduction and Welcome

2:07-2:27 **Rudy Six, INVERS**—Fleet Motor Pool Management Overview

2:27-2:34 **Frank Dean, Altech**—Commitment to Electrification: Jobsite Energy Management System

2:34-2:47 **Robert Crawford, Ventura County CA**—Motor Pool and Technology

2:47-3:00 **Mike Heath, Salt River Project**—Motor Pool Management Success Story

3:00-3:15 **Q&A**

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Sourcewell

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

INVERS

Fleet Motor Pool Management Overview

Carsharing tools: the next step in the evolution of automated motor pool management
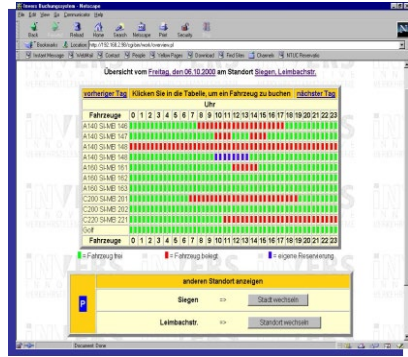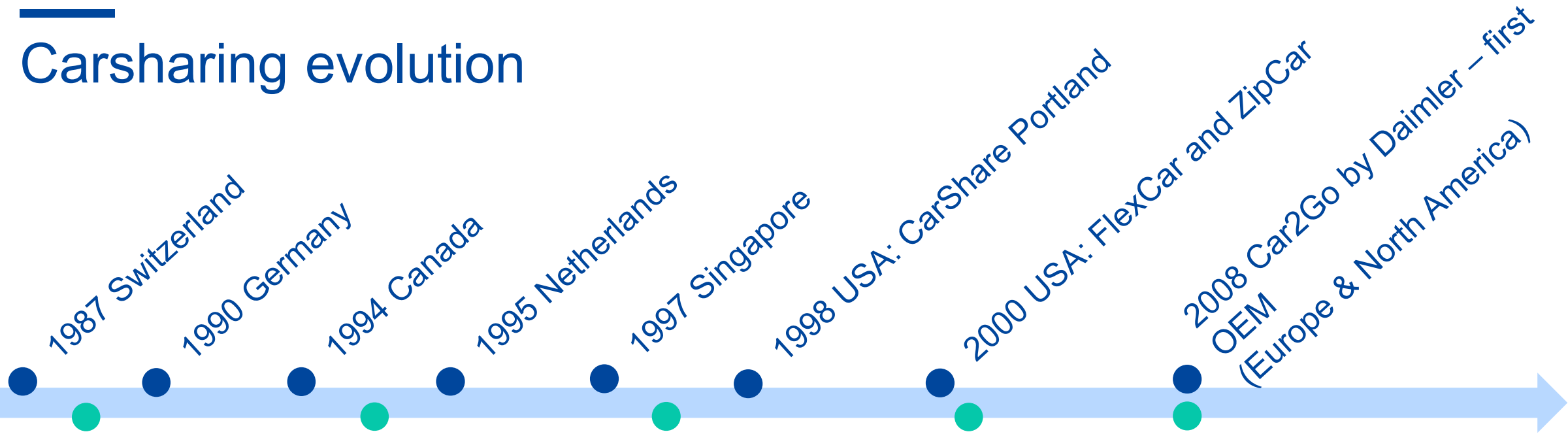
Nov 8, 2023

Agenda

- Carsharing

- Automated motor pool

- Sharing economy

- Carsharing 2.0

- Automated Motor Pools
   - How to get started?
   - What is most important?

INVERS

Providing smart motor pool solutions
for efficient fleet management

Carsharing evolution

1987 Switzerland

1990 Germany

1994 Canada

1995 Netherlands

1997 Singapore

1998 USA: CarShare Portland

2000 USA: FlexCar and ZipCar

2008 Car2Go by Daimler – first OEM (Europe & North America)

There Must be a Better Way...

Do we have
a vehicle for
Ms. Taylor
tomorrow
at 11am?

Who got
the parking
ticket this
time?

Which is
the key
for the
white van?

Isn't it
possible
with fewer
vehicles?

Automated Motor Pool: First Steps

- NAFA Conference
  May 8, Orlando, FL

- Presentation:
  Efficient Pool Vehicle
  Management for Small
  and Large Fleets
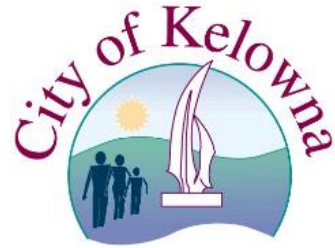
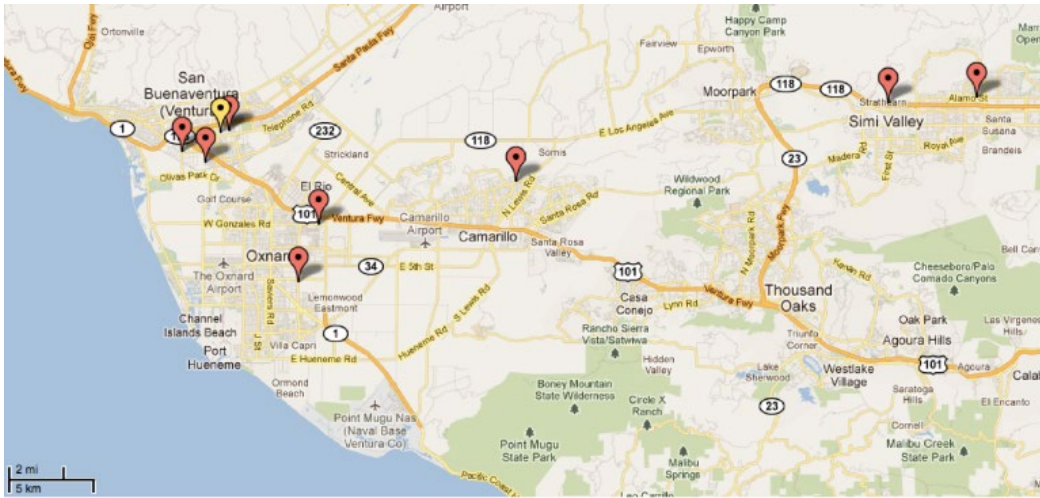# Automated Motor Pool: Road Show

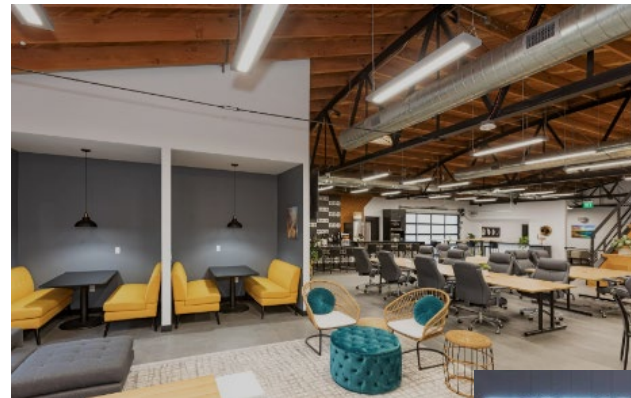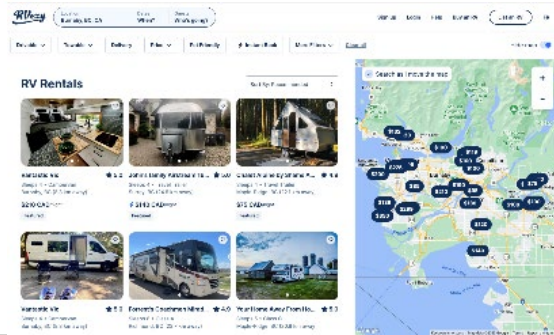# Automated Motor Pool: KeyManager Installations

Automated Motor Pool at Ventura County, CA

- Approx. 90 vehicles
- 13 locations
- Since 2009
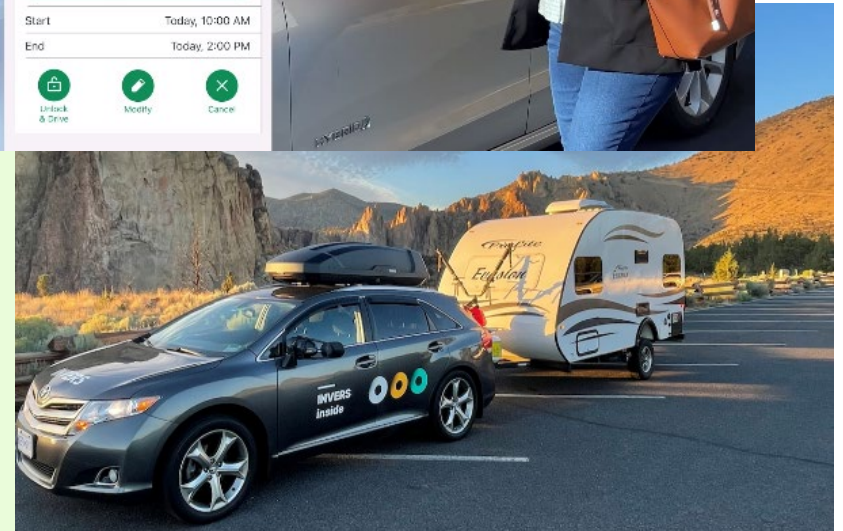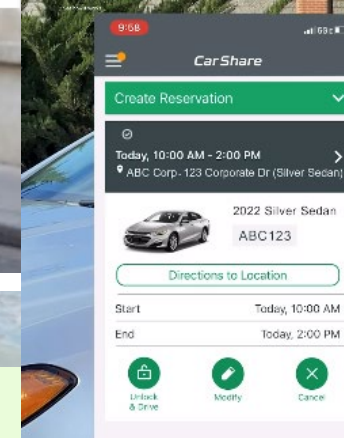
Sharing Economy

CarSharing 2.0   (Back on the Road Again)

Automated Motor Pools

- How to get started?
  - Define your goals
  - Measure your metrics
  - Investivate your options
  - Prove your case

4 STEPS TO SUCCESSFULLY SETUP YOUR MOTOR POOL

It's no mystery that adding a Motor Pool to your fleet can benefit your business, but in order to reap those benefits it's best to start with proper implementation of that Motor Pool. The following four steps will ensure that your Motor Pool brings your fleet increased efficiency and savings.

INVERS
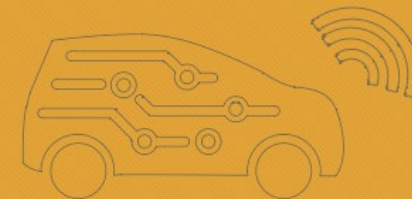
Automated Motor Pools

- Resources
  - NAFA and Government Fleet websites
  - other white papers, e.g. see AgileFleet.com
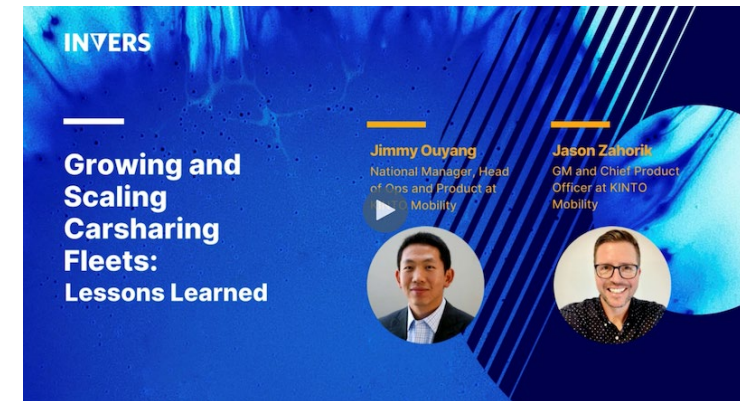- Video
  - How does Enterprise CarShare Work?
    https://www.enterprisecarshare.com/us/en/how-carshare-works.html
- Webinars
  - Toyota on Growing and Scaling Car Sharing Fleets – Lessons Learned
    https://go.invers.com/en/webinar-recording-carsharing-fleets
  - Jewish Family Services on Transitioning Motor Pools to Keyless Vehicle Sharing
    https://invers.com/en/blog/webinar-recap-transitioning-motor-pools-to-keyless-vehicle-sharing

Growing and Scaling Carsharing Fleets: Lessons Learned

Jimmy Ouyang — National Manager, Head of Ops and Product at ... Mobility
Jason Zahorik — GM and Chief Product Officer at KINTO Mobility

Webinar Recap: Transitioning Motor Pools to KeylessVehicle Sharing

Christina Swank — Jewish Family Services
Paul Hirsch — Launch Mobility
Chris Anderson — INVERS

INVERS

Automated Motor Pools: What is Most Important?

- **Think "drivers", not "assets"** – "convenience", not "utilization
- **Reliable technology** that provides access to vehicles under all conditions, at all times to serve the driver comes first
- Vehicle security (immobilization) comes second
- Vehicle data comes third
- **Have a plan** and make it **convenient** for your **drivers**:
  - access your needs, your goals, your current situation
  - define where you want to be in 5 years, in 10 years, and draw out a path to get there.
- Start small if necessary...:
  - Start with sharing vehicles on a small scale only
  - Manual and online reservations may already be a big step forward for your organization
- …but be open to jumping all the way forward to provide access to your fleet via smart phones like the modern mobility service providers do.
- Remember:
  Sharing economy services of all kind are already being consumed by your customers (drivers) outside of their work lives.

INVERS

Presenter

Rüdiger (Rudy) Six
CEO
INVERS Mobility Solutions

Rudy.Six@invers.com

Commitment to Electrification

10+ Years History

Development * Support * Innovation

1.9M Fuel Gallons
Fuel Gallons Saved to Date*

6.1M Fuel Savings
Fuel Savings to Date*

2.4M Anti-Idle Hours
Idling Hours Eliminated to Date*

76.8M "Idling" Miles
Idling Miles Eliminated to Date*

53.8M CO2 lbs.
Saved to Date*

JEMS.
JOBSITE ENERGY MANAGEMENT SYSTEM

JEMS S/SE and LE

JEMS S

Jobsite Anti-Idle

4.4 kWh Lithium Ion Battery

Replaces the JEMS 4A

JEMS SE

Jobsite Anti-Idle with ePTO

4.4 kWh Lithium Ion Battery

Small Aerial Application

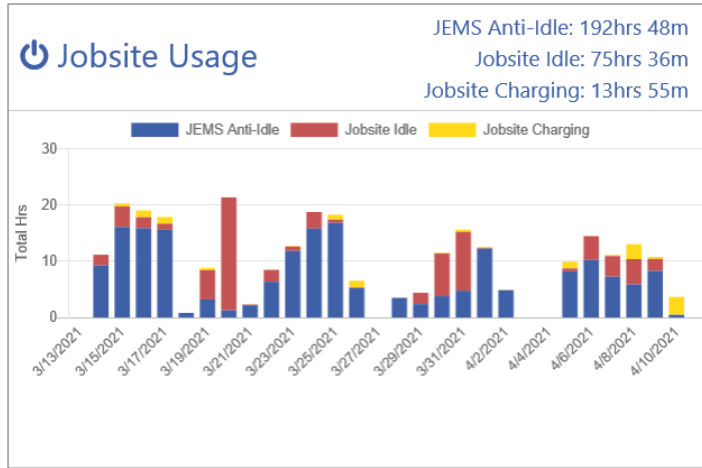*Replaces the JEMS 4E4 and 6E6*

JEMS LE

Jobsite Anti-Idle with ePTO

8.8 kWh Lithium Ion Battery

Large Aerial Application

Replaces the JEMS 1820 and 18E20

JEMS Connect (access through Altec Connect)

Easily monitor JEMS performance

Jobsite Usage

JEMS Anti-Idle: 192hrs 48m
Jobsite Idle: 75hrs 36m
Jobsite Charging: 13hrs 55m

Legend: JEMS Anti-Idle | Jobsite Idle | Jobsite Charging

Total Hrs (y-axis 0–30)
Dates: 3/13/2021, 3/15/2021, 3/17/2021, 3/19/2021, 3/21/2021, 3/23/2021, 3/25/2021, 3/27/2021, 3/29/2021, 3/31/2021, 4/2/2021, 4/4/2021, 4/6/2021, 4/8/2021, 4/10/2021

Emissions Reductions

| CO_2: | 4,575 lbs |
| NOx: | 1,015 g |

Jobsite Savings

Gallons Saved:	204.258
Fuel:	$488.18
Maintenance (estimated):	$257.07
Total:	**$745.25**

🔍 Save another $287.47

Identify top/bottom JEMS performing asset

Top Performing JEMS Equipment

Customer Vehicle #	Model	Jobsite Anti-Idle %
None	GB5-108D-S	0%
None	AT40G	100%
None	AT40G	100%

Lowest Performing JEMS Equipment

Customer Vehicle #	Model	Jobsite Anti-Idle %
None	AT40G	8%
None	AT40G	11%
None	TA60	26%

Receive proactive Alerts

⚠ **JEMS Alerts**

Customer Vehicle #	Unit Serial #	Recommendation
None	0520EY5866	Use plug-in charging to maximize JEMS Jobsite Anti-Idle (plug-in charging has been used less than four times in the past 30 days)
None	0520EY5868	Ensure JEMS is activated to improve anti-idle utilization at the jobsite (JEMS Anti-Idle has been below 20% for 30 days)

Altec

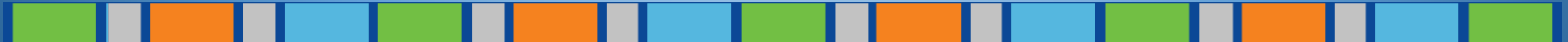# Motor Pool Access Technology
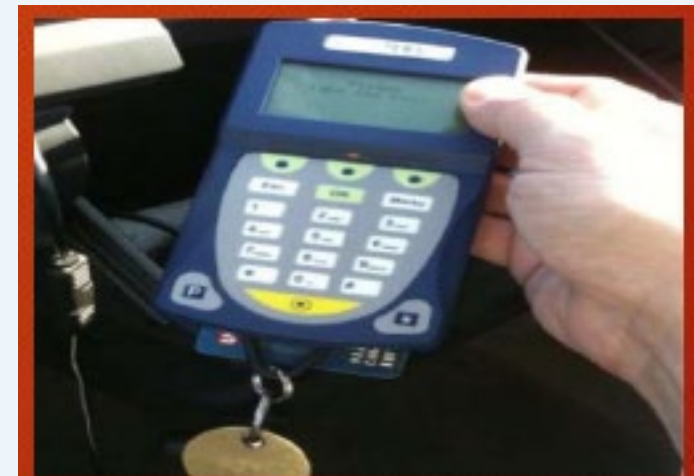
Start of Motor Pool
- Late 1980s
- <u>No</u> reservation system
- Walk up, manned kiosk w/keys
- Central Motor Pool (CMP)
- 16 vehicles

2012
- Invers reservation system
- Invers hardware/support
- 44 vehicles in CMP
- Electronic kiosk w/Key Manager

2013
- Expansion to "Remote" Motor Pool (RMP) sites
- Invers Key Box (in vehicle) hardware
- 11 RMP sites; 11 vehicles
- Total vehicles at YE: 50

Motor Pool Revenue

Rate Development

- **Fixed Rate**
  - System costs
  - Depreciation
  - OH
  - Support
- **Mileage Rate**
  - O&M
  - Salary Allocation(s)
  - Fuel

- **Current MP count: 72**

- **Analysis**
  - Lower revenue stream from RMP
  - Reservations "auto-shortened"
    - RMP: Long-term reservations/hoarding of keys
  - Removed auto-shortening of reservation
    - Billed full reservation time (in lieu of actual usage)
  - Better compliance
  - Higher revenue

Fiscal Year 2023-24 RATE DEVELOPMENT SCHEDULES MOTOR POOL RATES	Variance in vehicle count		
	1	0	0
	Fiscal Year 23/24 rate file		
Vehicle Class>>	50	51	52
CMP Count	14	0	2
RMP Count	18	6	3
Total Count	32	6	5
Fixed Vehicle Depr.	$ 68,938	$ 5,367	$
Fixed Non-Vehicle Depr.	$ 12,074	$ 2,264	$ 1
Central Support 4601 Alloc/Fleet OH	$ 44,107	$ 8,270	$ 6
Fixed OH Costs	$ -	$ -	$
Telematics	$ 7,584	$ 1,422	$ 1
Invers Support Costs	$ 32,396	$ 5,458	$ 4
Parts and Supplies	$ 18,060	$ 3,386	$ 2
Indirect Cost Allocation	$ 25,760	$ 4,830	$ 4
F&M SQ FT ALLOCATION ISF Kiosk	$ 207	$ 39	$
Total Fixed Costs	$ 209,126	$ 31,035	$ 21

Motor Pool and Telematics

Telematics

- **Countywide implementation in 2015 (excluding LEO)**
  - Additional tracking mechanism for MPs
  - No adjustment to auto-shortening
  - Move/transfer vehicles from lower performing RMPs
  - Better cooperation from users

- **Utilization Visibility**
  - MP customers able to track actual usage
    - MP vehicles are "added"
      - Total cost of transportation
        - Assigned (fixed)
        - MP
        - Personal Mileage Reimbursement
      - Assigned reductions for cost savings
    - Beware of cost transfer
  - Utilization has become highly visible to Leadership

YEAR	DESCRIPTION	TYPE	FS22JUL	FS22AUG	FS22SEP	FS22OCT	FS22NOV
2016	RMP Fusion	RMP	28.0%	64.7%	48.4%	95.2%	103.2%
2010	TRANSIT VAN	RMP	145.0%	144.7%	147.7%	151.3%	157.9%
2022	RMP Bolt EV	RMP	57.6%	80.4%	75.6%	70.9%	79.0%
2022	RMP Bolt EV	RMP	74.6%	83.9%	61.1%	79.3%	69.0%
2022	RMP Bolt EV	RMP	71.1%	66.4%	84.9%	79.5%	160.4%
2022	RMP Bolt EV	RMP	67.0%	84.9%	88.8%	65.0%	62.0%
2022	RMP Bolt EV	RMP	67.9%	67.2%	68.9%	69.4%	66.0%
2022	RMP Bolt EV	RMP	42.9%	69.8%	91.6%	79.1%	101.1%
			69.3%	82.8%	83.4%	86.2%	99.8%

Motor Pool - Electric Vehicles and Technology

EVs in Motor Pool

- **2016**
    - Transitioned 3 vehicles to EV (Ford Escape)
    - Low daily battery capacity
    - Resulted in low utilization
    - Removed in 2019

- **2017**
    - Added 10 Volt PHEVs
        - Highly utilized and popular with users

- **2019**
    - Transitioned 14 Bolt EVs in CMP
        - Learning curve for users
        - Second-most popular

- **2020**
    - Transitioned 18 Bolts EVs in RMPs
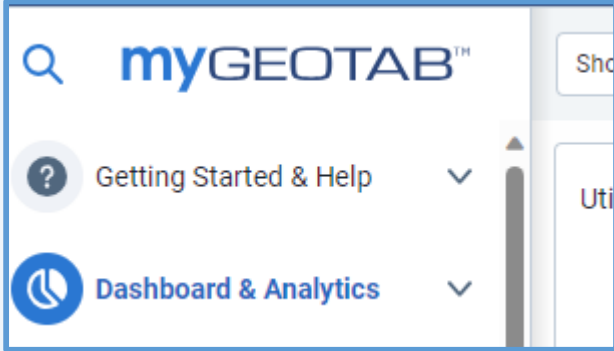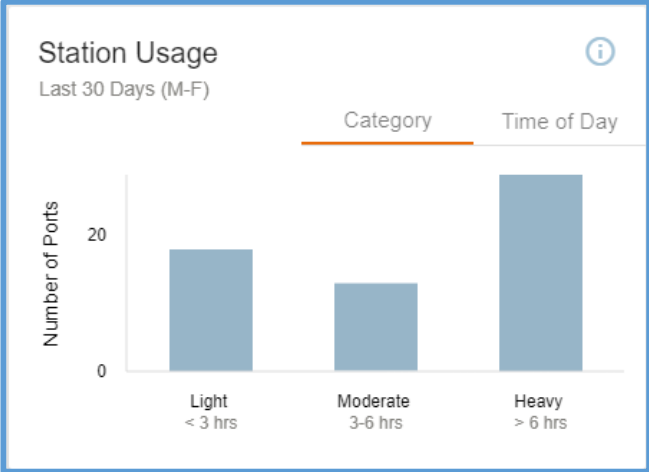   - 4 locations/Beam EV ARC solar charging stations

EVs in Motor Pool

- **Technology**
  - ChargePoint
 - Geotab
  - Invers
  - BEAM

- **Customer Service Enhancements**
  - MP rep assisting customers
  - Reservation adjustments
  - EV battery levels
  - Solar charging capacity
  - Utilization and Safety

Station Usage
Last 30 Days (M-F)

Category · Time of Day

myGEOTAB™

Getting Started & Help

Dashboard & Analytics

GOVT CENTER	BOLTS	Max 80% Charg				
Bolt EV #127620	800 S Victoria	Ventura	80	80	78	80
Bolt EV #127720	800 S Victoria	Ventura	72	80	80	80
Bolt EV #127820	800 S Victoria	Ventura	69	69	72	80
Bolt EV #127920	800 S Victoria	Ventura	100	100	100	100
Bolt EV #128020	801 S Victoria	Ventura	92	100	100	86
Bolt EV #128120	800 S Victoria	Ventura	92	100	100	100
Bolt EV #128220	800 S Victoria	Ventura	100	100	98	100
Bolt EV #128320	800 S Victoria	Ventura	100	100	100	100
Bolt EV #128420	800 S Victoria	Ventura	80	80	80	73
Bolt EV #128520	800 S Victoria	Ventura	80	76	77	80
Bolt EV #128620	800 S Victoria	Ventura	80	67	61	65
Bolt EV #128720	800 S Victoria	Ventura	67	67	80	80
Bolt EV #128820	800 S Victoria	Ventura	80	75	76	80
Bolt EV #128920	800 S Victoria	Ventura	80	80	71	80

Motor Pool and New Technology

Car Sharing Application

- **Testing Launch Mobility App**

  - Alternative to current system

  - Customer access via cell phone

  - Vehicle/user management for better utilization
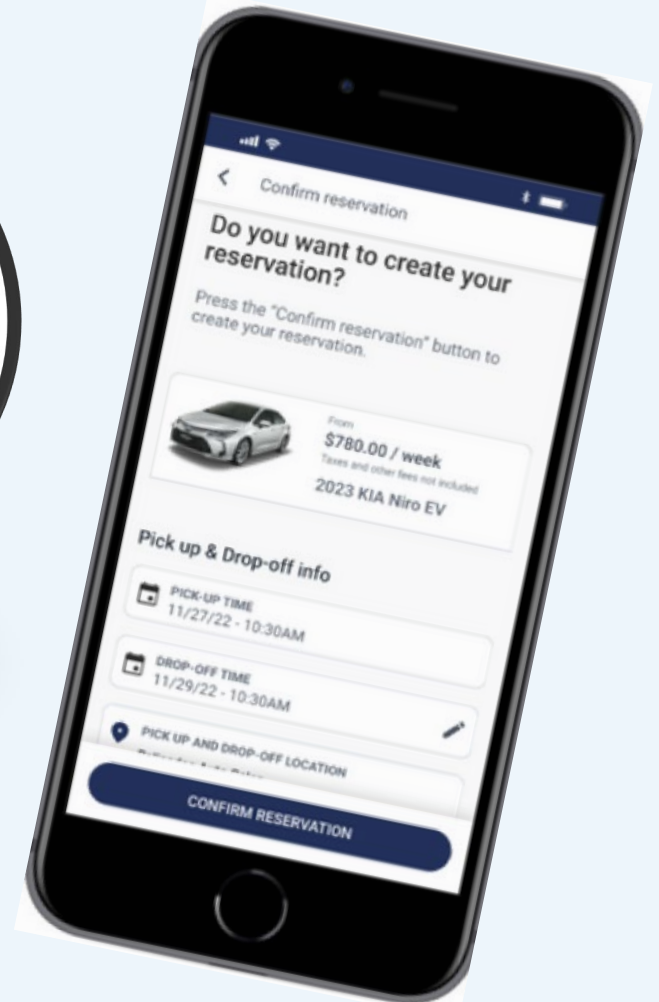
THANK YOU

Welcome…

**Salt River Project
Electric / Water Utility
Phoenix, Arizona**

**Mike Heath
Fleet Design Specialist**

SRP Fleet Information.

- **Over 2400 rolling stock of vehicles and equipment.**

- **8 Motor Pool Kiosk Key Box Systems.**
  - Promote Vehicle sharing, reduced inventory.
    - 1 without Key Box for specialized department.
    - 1 additional Kiosk in the planning stage.

- **100% of Sedans are EV or PHEV.**

- **650 EV Chargers for Fleet and Workplace.**

- **#1 in Arizona for Workplace Charging.**

- **Recognized by Department of Energy and Clean Cities and Communities.**

- **SRP are in Top 50 Green Fleet Awards.**

- **SRP are in Top 100 Best Fleets of Americas.**

Salt River Project Utility

VSCCC FOUNDING MEMBER – 20 YRS!

- 100% of diesel fleet vehicles run on Biodiesel!
- 100% of SRP Sedans converted to EV or PHEV!
- Motor Pool Kiosk to promote vehicle sharing.
- 650 EV Chargers for Fleet and Workplace charging across service area.
- 232 BEV, PHEV, HEV vehicles and assets.
- #1 in AZ for workplace charging.
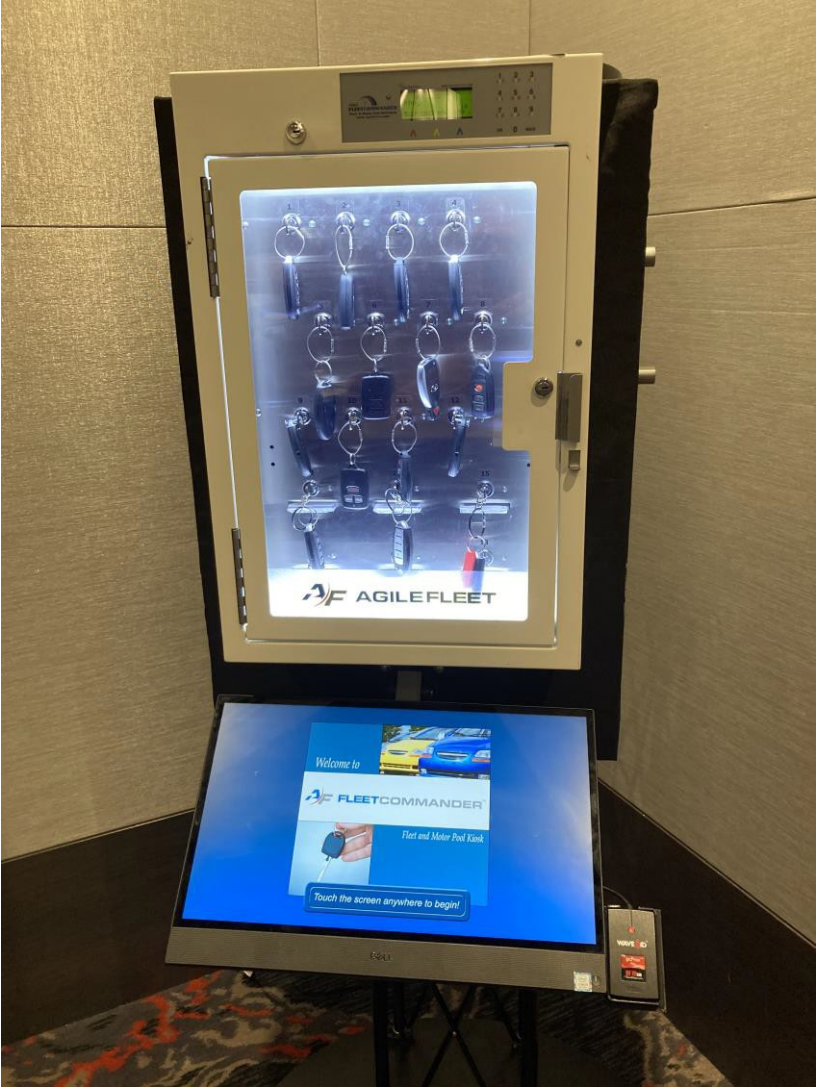- EV rebates and special EV time of use plans.

SRP — Delivering water and power™
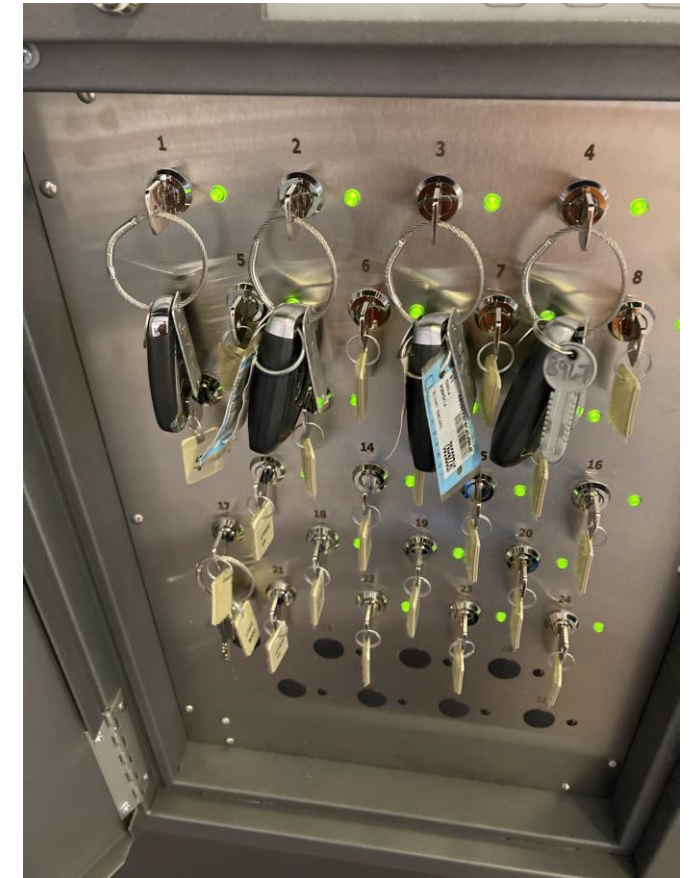
Motor Pool Vehicles

Sedan Fleet – 100% Electric or Plug-In Electric Hybrid.

Motor Pool Kiosk

SRP Kiosk & Key Box

Thanks…

Any Questions or Comments??

Delivering water and power™

https://www.sustainablefleetexpo.com/