

Community Advisory Committee

February 8, 2024



Managed Charging Pilot: Objectives + Strategy

How much can we shift EV charging and how?

Objectives:

1. Pilot residential managed charging utilizing no-hardware telematics
2. Reduce overall daily peak loads
3. Maximize for daytime solar, when possible
4. Test customer reactions to different incentive types



Last updated
6:01 PM



2020 Chevrolet Bolt EV

Plugged in to charger



Vehicle ready by 4:00 PM tomorrow
Next charge enabled from 6:30 AM



Boost

Peninsula Clean Energy

Charge history

[See all](#)



Dashboard



Smart

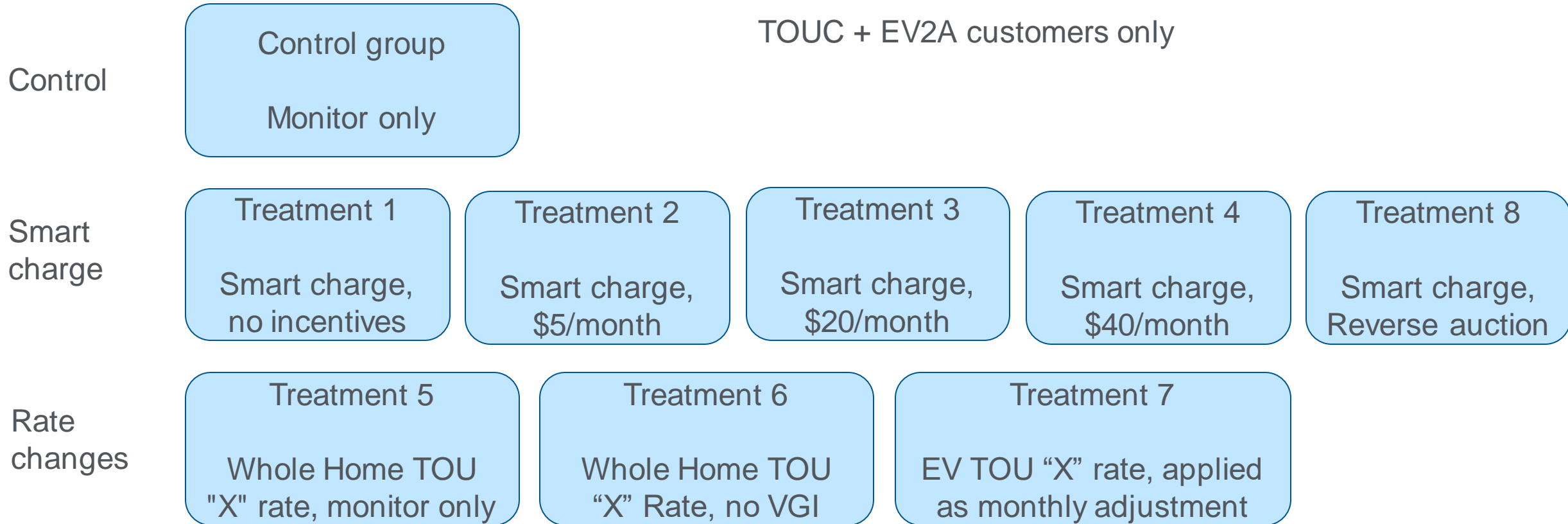


Stats



Rewards

Experimental Overview

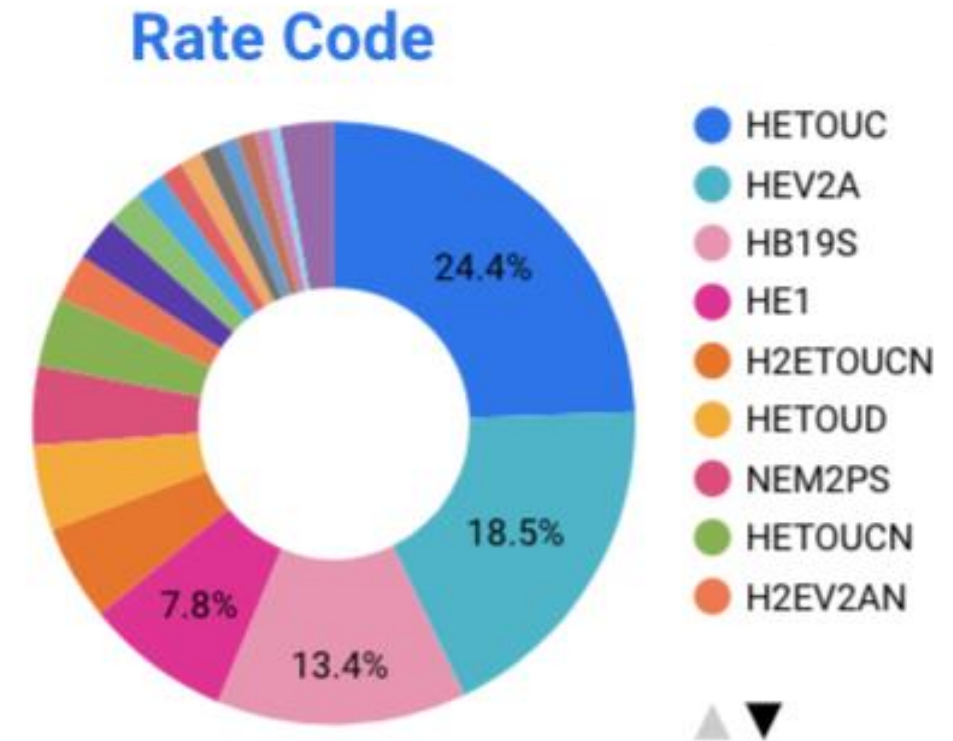


"X" rates are \$.05/kWh increase in peak rate and \$.05/kWh decrease in off peak rate

Who are SMC EV drivers?

- About 50K EVs (~10 adoption%)
- ~1/3 of new purchases are EV
- Plurality of EV drivers on default rate
- EV drivers not on EV rate:
 - 48% don't know about it or what rate they're on now
 - 35% think it's more expensive
- 2/3 charge 3+X per week

San Mateo County EV Drivers, by Rate

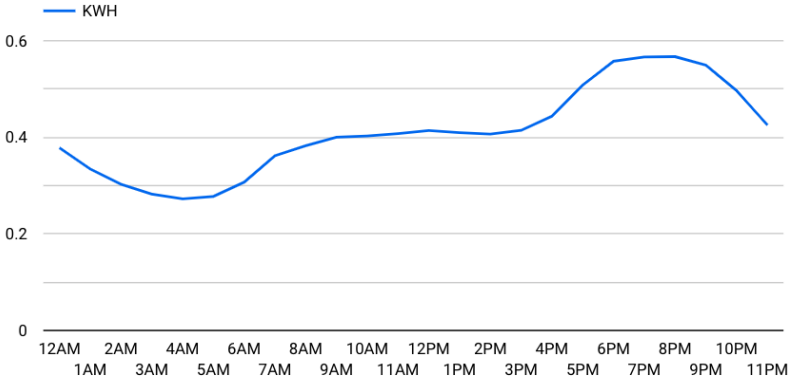


DMV registration data, synced with utility info

Whole Home AMI Load Shapes – EV Customers

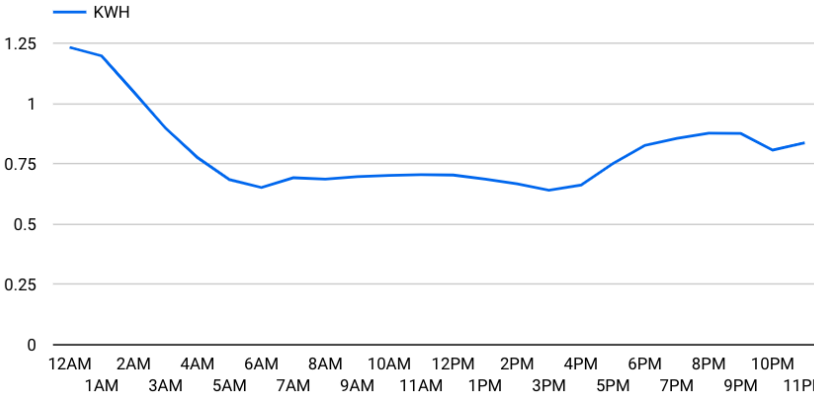
DMV Registration Data X AMI Energy Data

Hourly Average kWh Usage



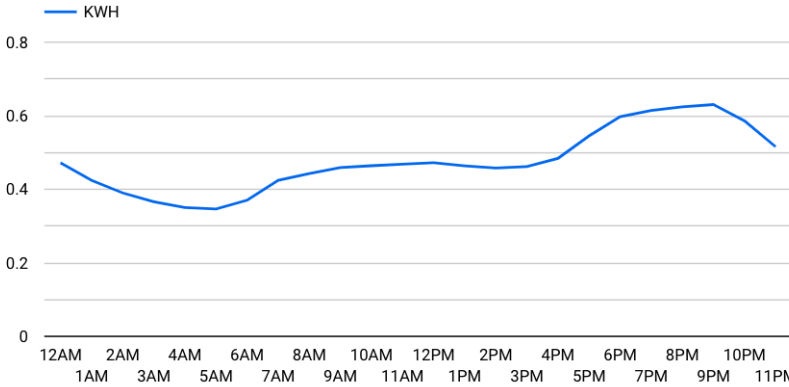
TOUC Customers
(~25% of EVs)

Hourly Average kWh Usage



EV2A Customers
(~19% of EVs)

Hourly Average kWh Usage



E1 Customers
(~8% of EVs)

Recruitment Summary

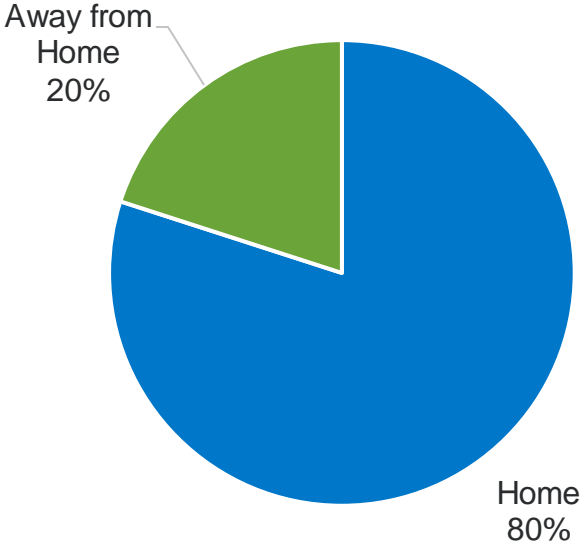
Recruitment is a challenge

1. Difficult to explain
2. Multiple onboarding steps
3. Need more tailored engagement
4. EV2A oversampled

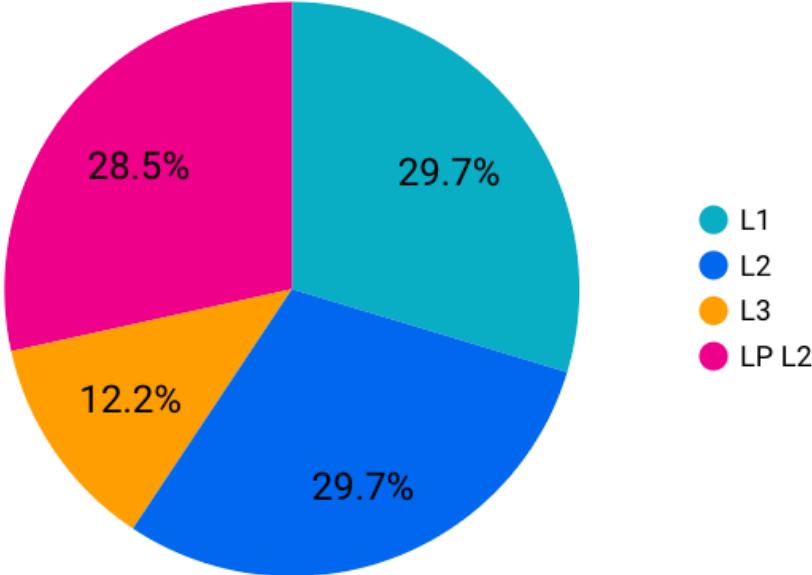
Group	Emailed (cumulative)	# Sign Ups (cumulative)	Sign Up Rate	Note
C2	2570	87	3.40%	control
T1	2461	35	1.40%	no incentive
T2	1780	56	3.10%	\$5/mo
T3	1027	51	5.00%	\$20/mo
T4	585	62	10.60%	\$40/mo
T5	1531	64	4.20%	rate change
T6	1379	74	5.40%	rate change, no app
T7	1529	75	4.90%	rate change, car only
T8	441	9	2.00%	reverse auction
E1	1415	18	1.3%	no incentive
NEM	2597			no incentive
PCE gen		180		no incentive
total	17315	693		

Charging Behavior

Charging by Location

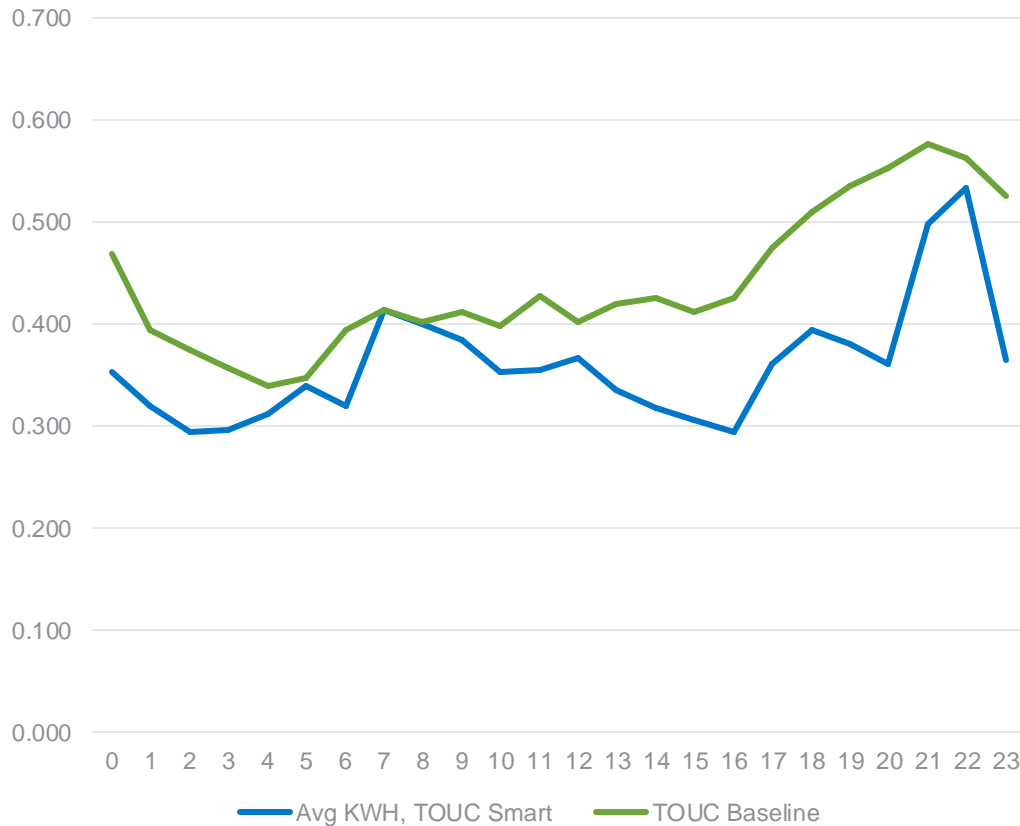


Percentage of Users per Charge Speed

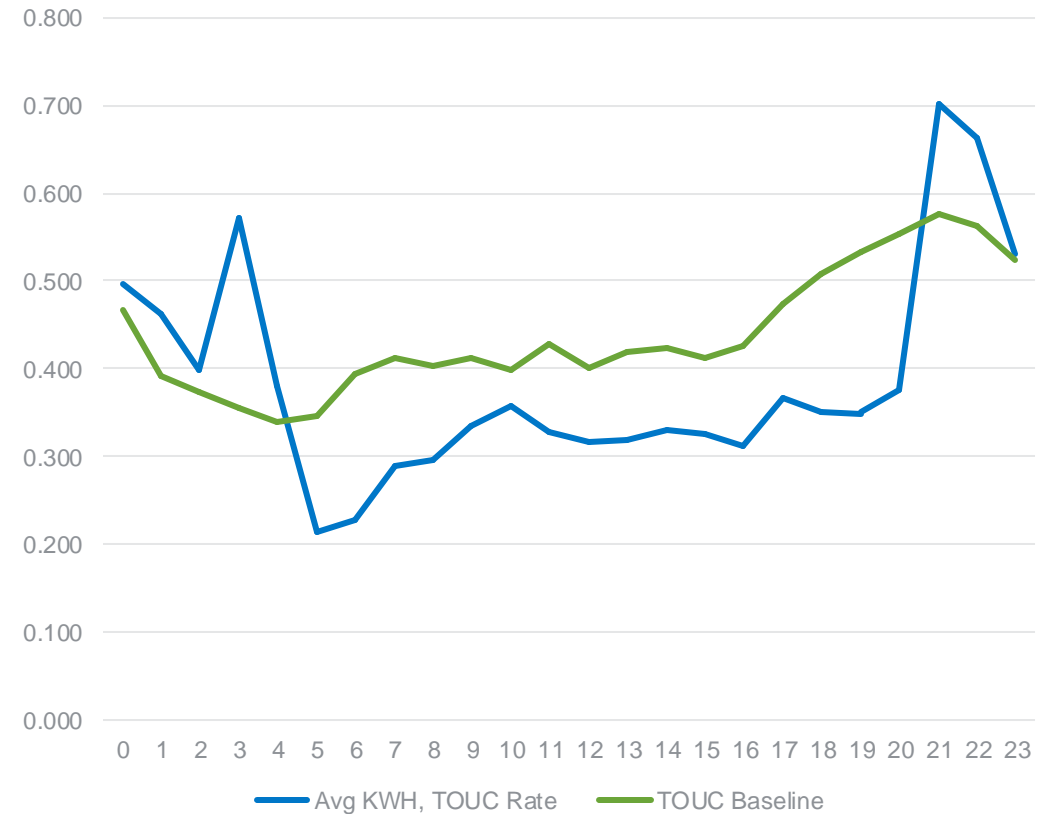


Using AMI to Determine Load Shift - TOUC

Combined Smart Charge Groups



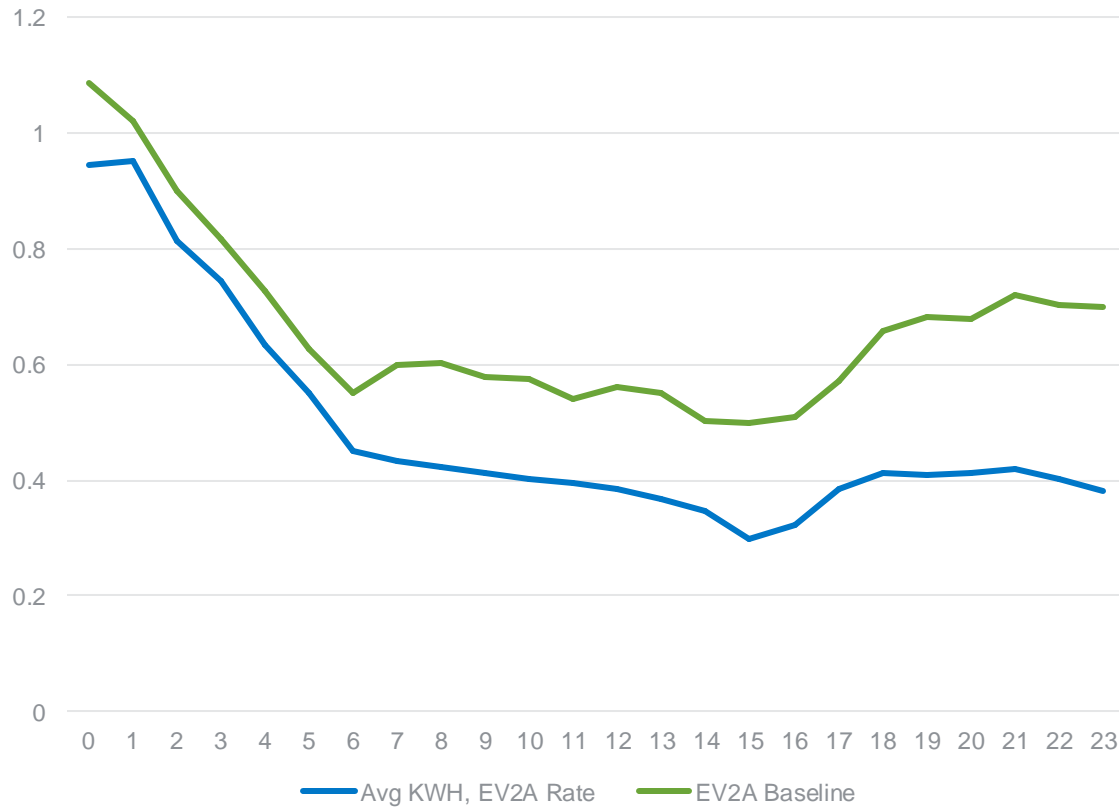
Combined Rate Mod Groups



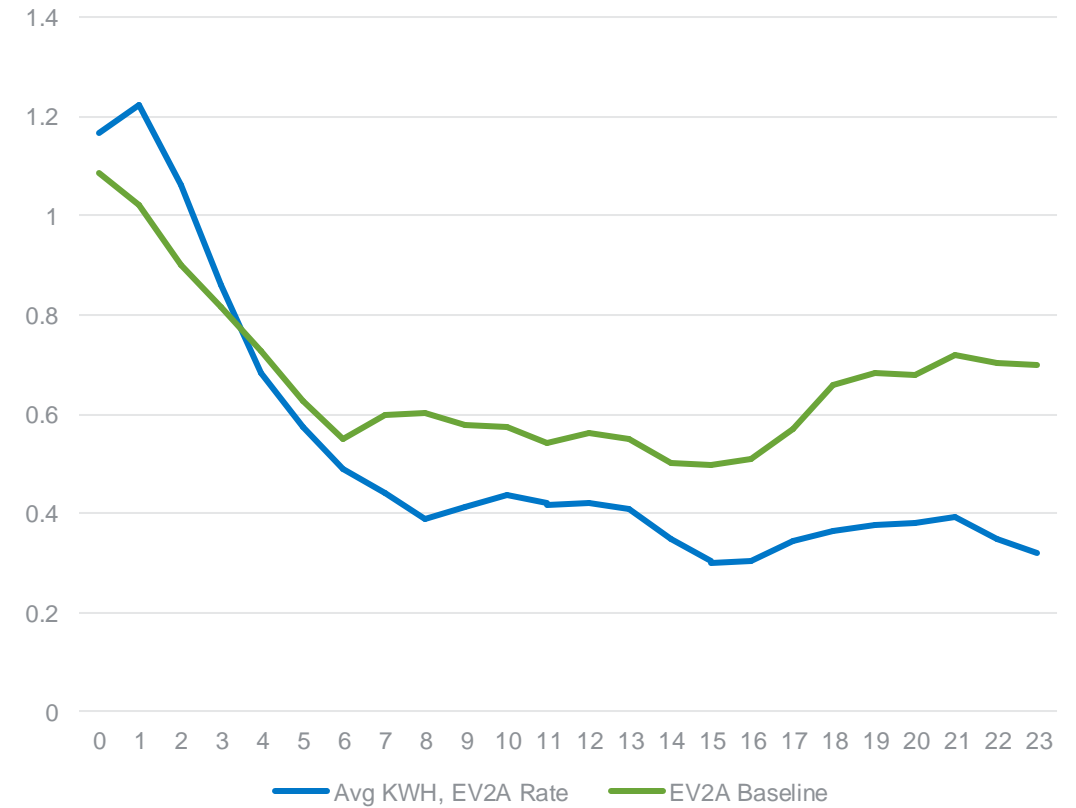
Comparing to C1 Control

Using AMI to Determine Load Shift – EV2A

Combined Smart Charge Groups



Combined Rate Mod Groups



Overall Takeaways

1. ~90% market share compatibility with telematics only, moderately easy to enroll, lots of potential
2. Recruitment challenge, 10% enrollment likely best case at reasonable cost
3. Negligible load shift during evening ramp up for EV2A and NEM customers. TOUC is priority recruitment, mostly the people who wouldn't otherwise want to join
4. Program will have limited impact in near term during evening ramp up, longer term impacts on timer peak mitigation

Planned PCE Program

1. Smart charging only (no rate modifications)
2. \$100 one-time incentive
3. Open to all rates
4. Soft launch 3/1

Questions and Discussion

