Applying a Developmental Evaluation Framework to Clean Transportation Pilots

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Agenda

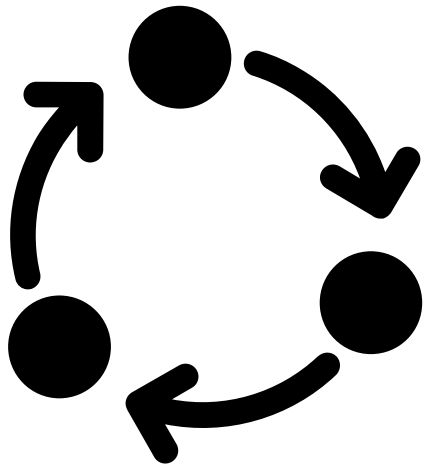
- Introduction to developmental evaluation
- Program case study: NYSERDA Clean Transportation Prizes
- Developmental evaluation approach
- Evaluation results
- Lessons learned

What is developmental or embedded evaluation?

The term "embedded evaluator" has occasionally been employed to describe this role. In other words, the evaluation is no longer an external observation of the strategies being employed but rather becomes one of those strategies. (Patton 2011)

What are the benefits of developmental or embedded evaluation?

- Supports innovative and/or dynamic programs or initiatives
- Provides real-time feedback to guide ongoing program improvement
- Evaluators are integrated into the program or project team
- Requires building trust with the project implementation team



Why is this approach important?

- New and innovative program designs continue to be "tested" in the industry
- Summative evaluation can take a long time (i.e., need for results in near real-time)
- Desire to course correct throughout a project
- Supports capacity-constrained community-based organizations charged with project implementation

Community-Based Clean Transportation Demonstration Program
(NYSERDA Clean Transportation Prizes)

- Ten different projects that range in scope, scale, and technologies
- Testing how communities can deploy and sustain clean transportation options
- Projects that change in design and scope over a three-to-five-year period
- Need to support decision making at both the program administrator and implementor levels

Community-Based Clean Transportation Demonstration Program
(NYSERDA Clean Transportation Prizes)

Region	Community Type	E-Bikes	Electric Cars	Shuttle Vans	Public Transport	Electric Freight	Charging	Workforce
Western NY	Urban/Suburban	X	X					X
Hudson Valley	Suburban	X						
Southern Tier	Suburban/Rural	X	X					
NYC: Five Burroughs	Urban				X			
Long Island	Urban/Suburban		X					
NYC: Five Burroughs	Urban				X		X	
NYC: Five Burroughs	Urban							
NYC: Five Burroughs	Urban					X	X	X
NYC: Five Burroughs	Urban			X				
NYC: Five Burroughs/Hudson Valley	Urban/Suburban					X		X

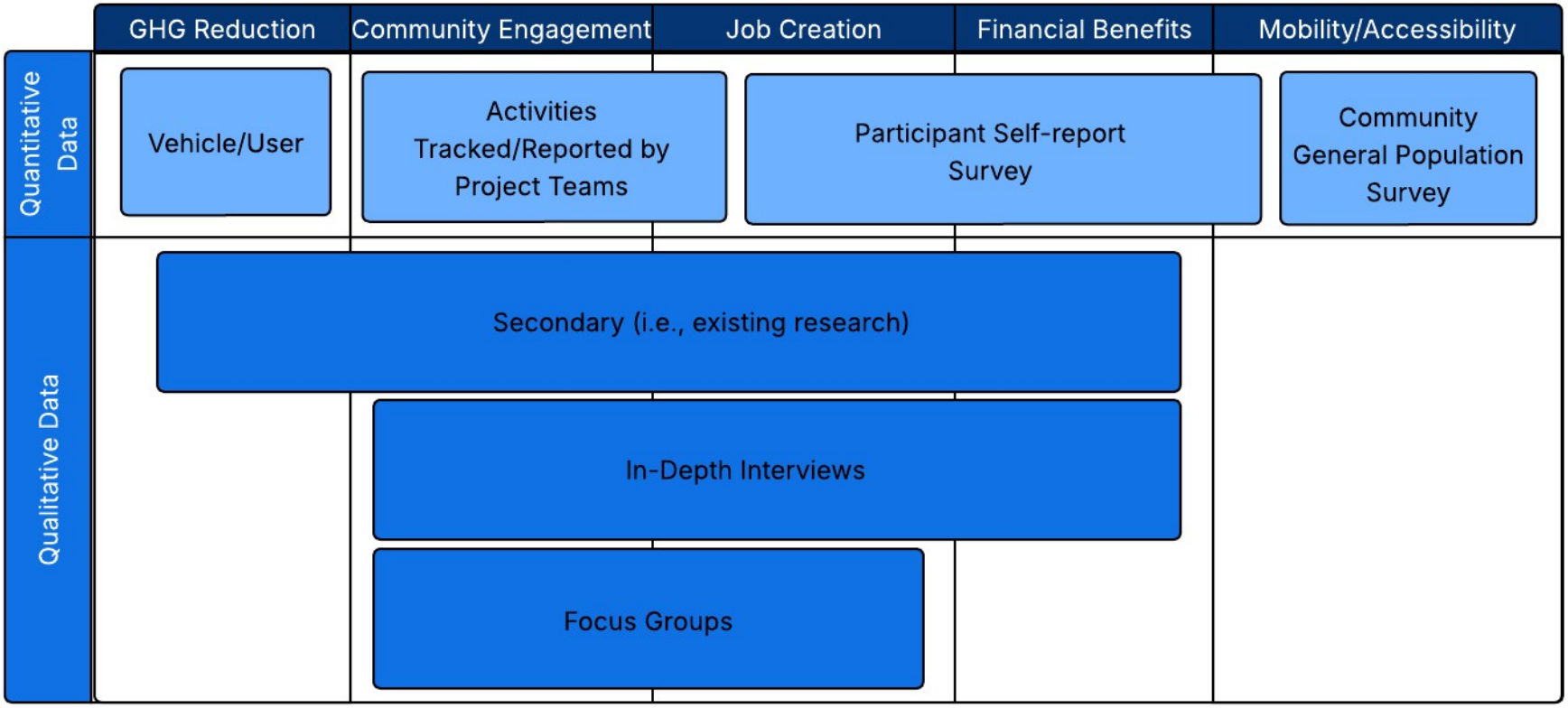
Evaluation Approach

Key Outcomes

Greenhouse Gas (GHG) Benefits	Community Engagement	Job Creation	Financial Benefits	Mobility/Accessibility
• Annual reduction in GHG and criteria pollutants and particulate matter (PM2.5, NOX, ROG, and diesel PM, where applicable)	• Community involvement in project planning, design and implementation measured by the quantity, quality, and equity of community engagement activities	• Hiring local staff to support implementation of the project and providing training and professional development opportunites. • Expanded job training and/or job placement support to workers in the clean transportation sector.	• Impact of changes in travel modes and operational costs on costs of travel or vehicle operation	• The ease with which community members can access goods, services, and employment that are essential to a good quality of life

Data Sources

Key Outcomes	Example Output	Output Source
GHG Reduction	Vehicle miles traveled	Vehicle usage data
	User trips	Rideshare application
Community Engagement	Event/activity details	Activity logged by project teams
	Participant satisfaction	Facilitated group discussions
	Project team experiences	Community meeting survey
Job Creation	Direct hires	Activity logged by project teams
	Project team experiences	Facilitated group discussions
	Trainee satisfaction	Trainee reaction survey
	Trainee self-reported knowledge gain	Interviews with trainees (3 months after participation)
Financial Benefits	Avoided cost of operating ICE vehicles	Vehicle usage data
	Avoided operations and maintenance costs (commercial)	Interviews with vehicle owners/operators
Mobility/Accessibility	Ability to access goods, services, and/or employment	Participant/User survey



Data Sources

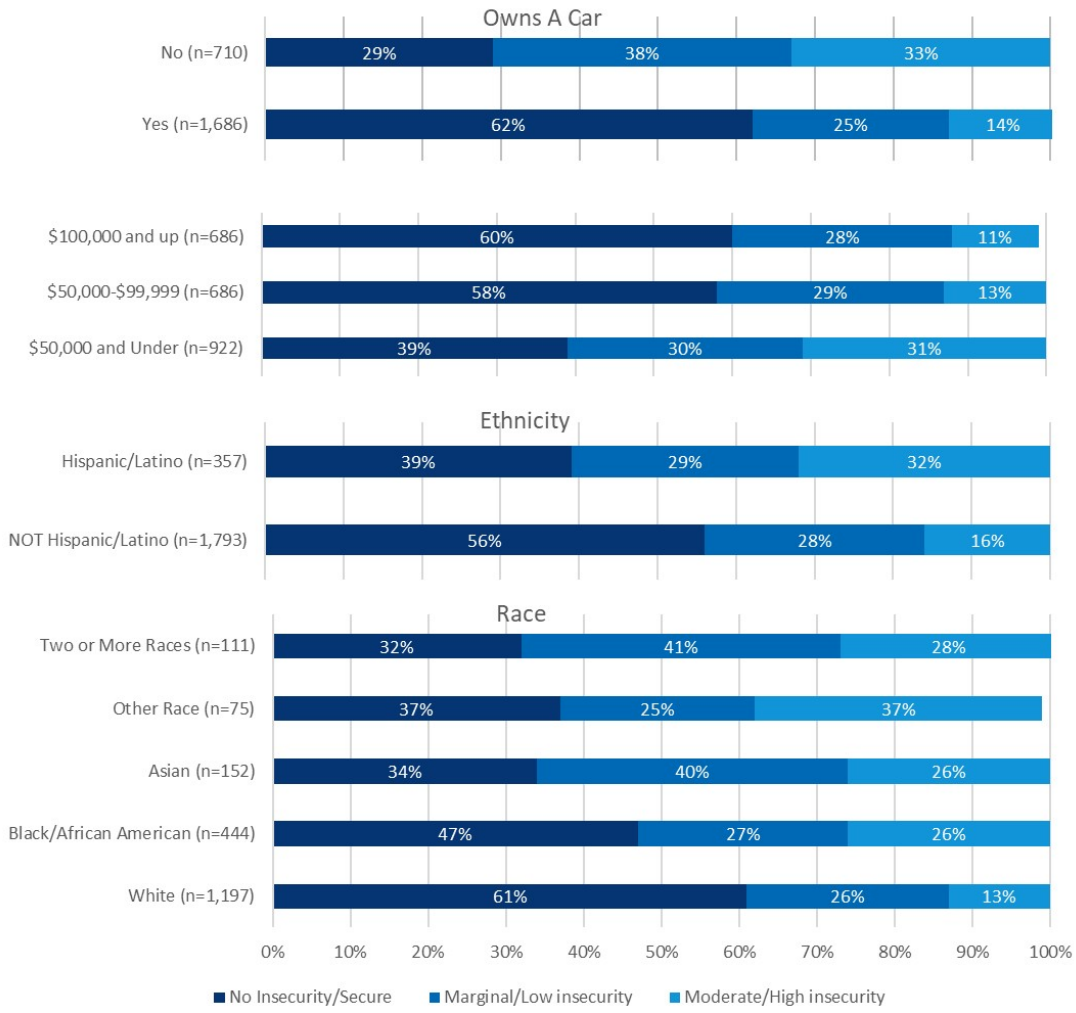
Evaluation Results

General Population Survey

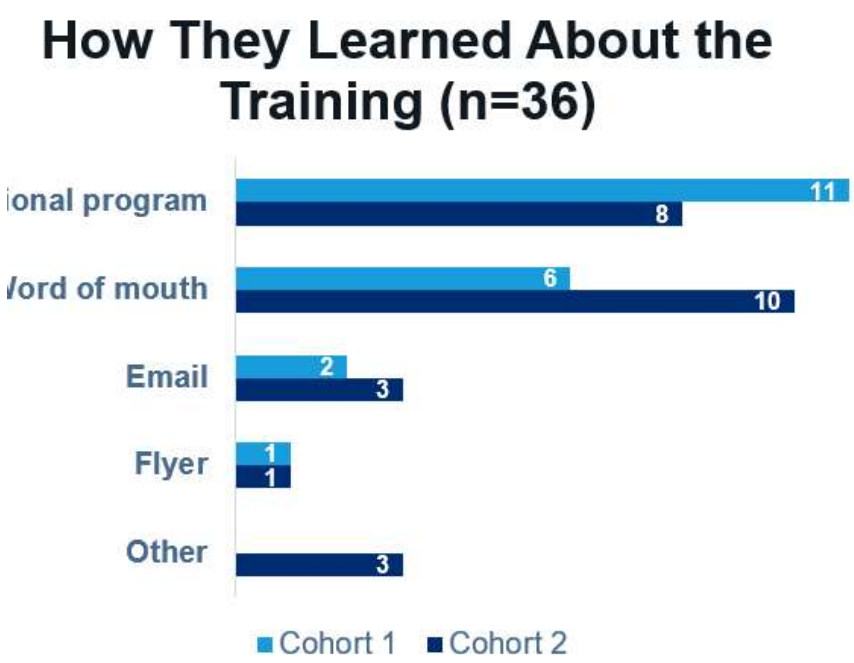
Transportation Security Level	Description
No Insecurity/Transportation Secure	little to no trouble getting places in and around their community
Marginal-Low Transportation Insecurity	sometimes have problems getting places, which leads to being late or missing events
Moderate-High Transportation Insecurity	frequently have trouble getting places and miss many events due to lack of transportation options

General Population Survey

- Broad-based community survey focused on six of the ten clean transportation projects fielded during the summer of 2023.
- Focused on providing opportunities for increased mobility of community members (i.e., mobility/accessibility key outcomes).



Workforce Training Evaluation



Lessons Learned

Balance	Foster	Support
Balance rigor with feasibility—"Right-size" evaluation rigor to balance quality data collection without over-burdening project teams	Foster ongoing collaboration—Continuous engagement with project teams is critical. Build trust by establishing regular touchpoints with members of the implementation teams.	Support implementation and capacity—Evaluation, in general, should support project implementation and the long-term goals of the intervention.