

→ **Hawai'i State Government
Employee TDM Strategy Matrix**

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BACKGROUND

To develop objectives for the Hawai'i State Government Employee Transportation Demand Management (TDM) program, a comprehensive goal-setting survey (Task 2.1) was conducted in collaboration with key stakeholders, including the O'ahu Metropolitan Planning Organization (OahuMPO), Hawai'i State Energy Office (HSEO), Department of Human Resources Development (DHRD), and the Department of Accounting and General Services (DAGS). These objectives were shaped by feedback from the employee transportation survey, alignment with the region's transportation plan, state climate and sustainability goals, and other relevant state and county plans and laws. The goal-setting survey was a critical step in defining clear goals to identify and prioritize the TDM program.

As part of Task 2 of the Hawai'i State Employee TDM study, proposed TDM strategies were identified based on the goals and objectives. The strategies' impacts and effectiveness relative to the identified goals, were also examined as part of this task. A literature review was conducted, which included peer examples and TDM strategies that can be implemented to meet the five (5) TDM goals:

- **GOAL #1:** Reduce vehicle miles traveled (VMT) and increase the use of active and shared mobility for commuting to help the state achieve its climate and energy goals.
- **GOAL #2:** Improve employee retention and reduce vacancy rates.
- **GOAL #3:** Increase and enhance transportation benefits.
- **GOAL #4:** Improve state employees' quality of life, health outcomes, and well-being.
- **GOAL #5:** Maximize the use of existing facilities and reduce future facility needs, including office space and employee parking.

OVERVIEW OF PROPOSED TDM STRATEGIES

Through the results of the state employee transportation survey (Task 1.1), literature review (Task 2.2), and feedback from focus group participants (Task 2.3), over 30 potential strategies were identified for consideration in the State Employee Transportation Demand Management (TDM) program. These TDM strategies are described in **Table 1** below. The strategies are grouped into eight (8) categories:

- **General** - includes administrative activities necessary to implement an effective, successful, and sustainable TDM program.
- **Incentives** - features strategies that encourage travel behavior changes and increase the impact of the TDM program's overarching goals.
- **Transit** - consists of strategies that support the shift to public transit and reduces single occupancy vehicle (SOV) commuting.
- **Ridesharing** - consists of strategies that support employee carpools and vanpools.
- **Active Transportation** - consists of strategies that support employees using active mobility and micromobility modes such as walking, biking, and rolling to work.
- **Alternative Work Arrangements** - covers strategies that support various forms of teleworking for state employees that can significantly reduce VMT.
- **Parking Waitlist Management** - encompasses various strategies that can be implemented to alleviate parking challenges facing state employees and efficiently utilize and manage parking facilities.
- **Electric Vehicles (EVs)** - highlights strategies that support more sustainable drive alone commuting.

Table 1. Proposed TDM Strategies

TDM Strategy Name	Brief Description
GENERAL	
TDM Program Promotion and Marketing	Includes branding, promotion, and marketing of the TDM program to employees, partners, and stakeholders.
Employee Transportation Coordinator (ETC) Program	Designated ETCs for State worksites who serve as a liaison to promote, educate, and conduct outreach to state employees regarding TDM/commuter benefits.
Communications, Education, and Outreach	Includes outreach and educational methods, including digital platforms such as social media platforms or e-newsletters.
TDM Checklists	Checklist for assessing the availability of TDM-friendly amenities, accommodations, and services around/in worksites.
State Vehicle Fleet Expansion	Expanding the number of state-owned (preferably low emissions vehicles) vehicles so employees who rely on their personal vehicles for work related responsibilities can use active and/or shared modes of transportation to get to work and utilize a State vehicle to conduct state business.
INCENTIVES	
Guaranteed / Emergency Ride Home (GRH/ERH)	Free ride via Lyft, Uber, or Taxi for state employees using active and shared modes in the event of emergencies or unexpected events.
Mobility Wallet	A tool that allows employees to access rides, passes, fares, credits, or receive incentives for using active and shared modes of transportation.
Direct Incentives (for non-SOV commutes)	Provision of financial incentives for employees using active and shared modes.
Time off with Pay	Employees are compensated for using active and shared modes with paid time off/increasing vacation time.
Carpool Incentives	Provides financial incentives to state employees who carpool.
Vanpool Incentives	Provides financial incentives to state employees who vanpool.
Fully Subsidized Transit Passes	Provision of fully subsidized transit passes.
Fully Subsidized Bikeshare (Biki) Passes	Provision of fully subsidized bikeshare passes.
Biking Incentive	Provision of financial incentives for biking to work.
Parking Cash-Out	Allows employees to opt out of parking in exchange for a financial incentive.
Commuter Challenges	Encourages employees to log trips and try other transportation modes for rewards and recognition.
TRANSIT	
Expansion of Pre-Tax Transportation Benefits (PTTB)	Currently implemented as a pilot limited to state employees working on O’ahu, it is a strategy that enables state employees to take advantage of pre-tax transportation benefits.

TDM Strategy Name	Brief Description
"Try Transit" Program	Allows employees (can be new hires only) to try transit for a trial period.
RIDESHARING	
Ridesharing Preferential Parking	Allows carpools and/or vanpools to park closer to worksite than employees who drive alone to work.
Carpool / Vanpool Ridematching	Coordinate carpool or vanpool formation by assisting state employees with ridematching.
Car-Sharing Promotion	The provision of vehicles on-site so employees using non-SOV modes can get to additional worksites/events (e.g., conferences).
ACTIVE MOBILITY	
Micromobility Amenities at Worksites	Install active mobility-friendly amenities and end-of-trip facilities at worksites.
ALTERNATIVE WORK ARRANGEMENTS	
Teleworking and Hybrid Schedules	Allows employees to telework fully or on a hybrid schedule.
Satellite Worksite	Identification of satellite worksites to allow state employees to have shorter work commutes.
Flexible Start Times	Allows employees using active and shared modes of transportation flexibility in their start time to accommodate unexpected delays.
Variable / Alternative Work Schedules	Allows departments/employees to develop alternative work schedules that can decrease peak-hour trips.
Compressed Work Week	Allows employees to have a compressed work week (e.g., 4/10 hour days or 80 hours in 9 days).
PARKING WAITLIST MANAGEMENT	
Market-Rate Parking Pricing	Incrementally increase the pricing of employee parking.
Daily-Rate Parking	Allows employees to pay for parking daily as needed rather than monthly.
Flexible/Shared Parking	Allows employees to flex or share their parking spots if not in use (e.g., teleworking, time off, away from the office).
ELECTRIC VEHICLES	
EV Charging Stations	Installation of EV charging stations at state department worksites.

METHODOLOGY

Several criteria were used to evaluate the effectiveness and potential impact of the proposed TDM strategies. Table 2 provides the TDM goals established for the State Employee Transportation program. Table 3 provides an overview of the evaluation criteria used to assess each proposed TDM strategy.

Table 2. State Employee TDM Goals.






Goals #	State Employee TDM Goal	Goal Icon
Goal #1	Reduce vehicle miles traveled (VMT) and increase the use of active and shared mobility for commuting to help the state achieve its climate and energy goals.	
Goal #2	Improve employee retention and reduce vacancy rates.	
Goal #3	Increase and enhance transportation benefits.	
Goal #4	Improve state employees' quality of life, health outcomes, and well-being.	
Goal #5	Maximize the use of existing facilities and reduce future facility needs, including office space and employee parking.	

Table 3. Evaluation Criteria.

Criteria	Definition	Description	Key
TDM Goals ("Goals")	The State Employee Transportation Demand Management (TDM) goals aim to: (1) Reduce vehicle miles traveled (VMT) and increase the use of active and shared mobility for commuting to help the state achieve its climate and energy goals; (2) Improve employee retention and reduce vacancy rates; (3) Increase and enhance transportation benefits; (4) Improve state employees' quality of life, health outcomes, and well-being; and (5) Maximize the use of existing facilities and reduce future facility needs, including office space and employee parking.	Does not meet TDM goal.	-
		Has indirect benefits to the TDM goal.	L
		Has some direct benefits the TDM goal.	M
		Fully meets goal.	H
Propensity to Influence Behavior	Propensity refers to an individual or group's likelihood or natural	Unknown impact on behavior change.	TBD






("Propensity")	tendency to adopt a particular behavior or action change. Source: TDM Quick Guide	Low impact on behavior change.	L
		Moderate impact on behavior change.	M
		High impact on behavior change.	H
Impact on VMT and Trip Reduction and ("Impact")	The effectiveness of reducing vehicle miles traveled (VMT) or single occupancy (SOV) vehicle trips. Source: Enhancing TDM Enhancing Transportation Demand Management Options at the University of Nebraska at Omaha: The Costs, Benefits and Challenges of Implementation	Unknown effectiveness of reducing vehicles, VMT, or vehicle trips.	TBD
		Low effectiveness in terms of reducing vehicles, VMT, or vehicle trips.	L
		Moderate effectiveness in terms of reducing vehicles, VMT, or vehicle trips.	M
		High effectiveness in terms of reducing vehicles, VMT, or vehicle trips.	H
Estimated Annual Costs ("Cost")	The amount of money or resources required to obtain goods or services.	Generates Revenue	\$\$\$
		No or minimal costs annually.	N/A
		Low costs are less than \$50,000 annually.	L
		Moderate costs are between \$50,000 and \$100,000 annually.	M
		High costs are those greater than \$100,000 annually.	H
Cost-Effectiveness: VMT and Trip Reduction Impacts Relative to Estimated Costs ("Cost-Effectiveness")	The cost is determined by evaluating the impact ratio to cost, ensuring that the impact exceeds costs.	Unknown cost-effectiveness.	TBD
		Impact is less than cost.	L
		Impact is equivalent to cost.	M
		Impact is greater than cost.	H
Degree of Potential Impact	The degree of impact on the target employee/commuter group.	Unknown potential of being utilized by employees.	TBD

<p>("Degree of Potential Impact")</p>	<p>Source: MDOT TDM Strategies</p>	<p>Strategy has the potential to be utilized by less than 25% of targeted employees.</p>	<p>L</p>
		<p>Strategy has the potential to be utilized by 25%-49% of targeted employees.</p>	<p>M</p>
		<p>Strategy has the potential to be utilized by more than 50% of targeted employees.</p>	<p>H</p>


STATE EMPLOYEE TDM STRATEGIES EVALUATION MATRIX






Table 4 on the following pages presents the evaluation of each proposed state employee TDM strategy.






Table 4. State Employee TDM Strategies Evaluation Matrix






	TDM Strategy Name	Goal #1 	Goal #2 	Goal #3 	Goal #4 	Goal #5 	Propensity	Impact	Costs	Cost-Effectiveness	Degree of Potential Employee Impact	Notes
GENERAL	TDM Program Promotion and Marketing	M	M	L	M	L	M	M	L	H	H (All Employees)	Combined with other TDM strategies, branding, promotion, and marketing can have a moderate to high impact.
	Employee Transportation Coordinator (ETC) Program	M	M	M	M	L	H	M	L	H	H (All Employees)	ETCs can take the lead in sharing information related to the TDM program strategies with employees, including hosting events.
	Communications, Education, and Outreach	M	M	L	M	L	M	M	L	H	H (All Employees)	This strategy complements the TDM Program and Marketing and the ETC Program.
	TDM Checklists	M	M	M	M	H	H	M ¹	L / M	M / H	H (Active / Shared Mobility)	TDM Checklists are a mechanism for monitoring and tracking facility improvements, complimenting active and shared mobility.
	State Vehicle Fleet Expansion	M / H	L	-	-	-	TBD	TBD	H	TBD	TBD	The propensity, impact, and cost-effectiveness are yet to be determined as they depend on the number of employees






¹ Region of Waterloo. TDM Strategy. https://www.regionofwaterloo.ca/en/living-here/resources/Transportation-Master-Plan/DOCS_ADMIN-2981762-v1-TMP_Report_TDM_Strategy_FINAL_2019-03-29.PDF






	TDM Strategy Name	Goal #1 	Goal #2 	Goal #3 	Goal #4 	Goal #5 	Propensity	Impact	Costs	Cost-Effectiveness	Degree of Potential Employee Impact	Notes
												who use their personal vehicles for work.
	Guaranteed / Emergency Ride Home (GRH/ERH)	M	M	H	L	L	L / M	L / M	L	M / H	H (All non-SOV modes)	ERH/GRH programs alone are insufficient and must complement a non-SOV strategy to maximize its impact.
INCENTIVES	Mobility Wallet	H	M / H	H	H	M / H	H	H	L - H	H	H (All non-SOV modes)	Mobility Wallets complement various incentive-driven strategies. The costs may vary depending on the monetary value of the incentives and employee participation.
	Direct Incentives (non-SOV work trips)	H	M / H	H	H	H	H	H	L - H	H	H (All non-SOV modes)	Direct incentives can encourage mode shift, but costs may vary depending on participation and the monetary value of the incentives.
	Time off with Pay	H	H	H	H	H	M	M / H	M	M / H	H (All Employees)	Time off with Pay can be implemented as an effective TDM strategy to encourage state employees to use non-SOV modes.
	Carpool Incentives	H	M / H	H	H	H	M	H	L	H	M - (Ridesharing Only)	Carpool incentives can be administered in the Mobility Wallet. Incentives may have a positive impact on employee retention and vacancy rates.

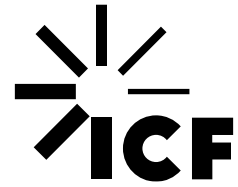
	TDM Strategy Name	Goal #1 	Goal #2 	Goal #3 	Goal #4 	Goal #5 	Propensity	Impact	Costs	Cost-Effectiveness	Degree of Potential Employee Impact	Notes
INCENTIVES	Vanpool Incentives	H	M/H	H	H	H	L	H	M	H	M - (Ridesharing Only)	Vanpool incentives can be administered in the Mobility Wallet. Incentives may have a positive impact on employee retention and vacancy rates.
	Fully Subsidized Transit Passes	H	M	H	H	H	H	H	L - H	H	M - (Transit Only)	Employees cited the free transit passes as one of the most influential incentives that can lead to mode shift. Due to participation, costs may vary.
	Fully Subsidized Bikeshare (Biki) Passes	H	M	H	H	H	L	M	L/M	M/H	M - (Bicyclists Only)	Bikeshare incentives can be administered in the Mobility Wallet.
	Biking Incentives	H	M	H	H	L	L	M	L/M	M/H	M - (Bicyclists Only)	Biking incentives may be administered in the Mobility Wallet. Incentives may have a positive impact on employee retention and vacancy rates.
	Parking Cash-Out	H	M	H	-	H	M	M	M	M/H	M - (Non-SOVs)	Parking cash-out costs may be offset by implementing market-rate parking pricing.
	Commuter Challenges	M	L	M	H	-	L/M	M	L	M/H	H - (All Employees)	Commuter Challenges may lead to long-term/permanent travel behavior changes but are generally expected to have marginal to low impacts.

	TDM Strategy Name	Goal #1 	Goal #2 	Goal #3 	Goal #4 	Goal #5 	Propensity	Impact	Costs	Cost-Effectiveness	Degree of Potential Employee Impact	Notes
TRANSIT	Expansion of Pre-Tax Transit Benefits (PTTB)	H	L	H	H	H	M	M / H	N/A	H	M - (Transit Only)	This strategy may conflict with transit passes. However, this strategy may benefit state employees who ride transit irregularly.
	"Try Transit" Program	H	L / M	H	H	M	H	M / H	M	M / H	M - (Transit Only)	This strategy is compatible with the PTTB strategy. It can also be implemented as an early action before giving an employee a parking space. The impact on employee participation may vary.
RIDESHARING	Ridesharing Preferential Parking	H	M	H	H	H	L	M	N/A	H	M - (Ridesharing Only)	Preferential parking for carpools and vanpools may incentivize employees to rideshare.
	Carpool / Vanpool Ridematching	H	M	H	H	H	M	M	L	H	M - (Ridesharing Only)	Employees may be likely to participate in ridesharing modes if they can be matched with other state employees who live and work near them.
	Car-Sharing Promotion	M / H	M / H	H	H	H	H	H	H	M	M / H - (Non-SOVs)	This strategy complements employees interested in non-SOV modes but need access to a vehicle during the work day.

	TDM Strategy Name	Goal #1 	Goal #2 	Goal #3 	Goal #4 	Goal #5 	Propensity	Impact	Costs	Cost-Effectiveness	Degree of Potential Employee Impact	Notes
ACTIVE MOBILITY	Active Mobility Amenities at Worksites	H	M	H	H	L	L	M	L - H	L - H	M - (Active Mobility Only)	Amenities may include secured bike parking/storage, showers, change rooms/lockers, and charging for micromobility devices. Employees cited this as an appealing incentive.
ALTERNATIVE WORK ARRANGEMENTS	Teleworking and Hybrid Schedules	H	H	H	H	H	H	H	L - H	M / H	M - (All Eligible Employees)	Offering teleworking and hybrid schedules may not be an option for some employees (e.g., law enforcement). However, this strategy can significantly reduce VMT but will require legislative support the provision of tech and home office equipment.
	Satellite Worksite	H	M	H	H	H	M	H	L - H	M / H	M - (All Eligible Employees)	Satellite worksites will require DAGS to assess office workspace availability. This strategy can reduce employees' commuting distance and stress and incur travel cost savings.
	Flexible Start Times	M	M	H	H	M / H	M	M / H	N/A	H	H - (All Employees)	Flexible start times are complementary to strategies related to non-SOV modes.
	Variable / Alternative Work Schedules	L	H	M	H	-	M	M	N/A	H	H - (All Employees)	Variable / Alternative work schedules do not contribute to fewer trips but can support Goal #4

	TDM Strategy Name	Goal #1 	Goal #2 	Goal #3 	Goal #4 	Goal #5 	Propensity	Impact	Costs	Cost-Effectiveness	Degree of Potential Employee Impact	Notes
PARKING WAITLIST MANAGEMENT	Compressed Work Week	H	H	M	H	-	M	M	N/A	H	H - (All Employees)	by reducing commutes during peak hours. Compressed work weeks (e.g., 8/80 or 4x10) can lead to a 20% reduction in VMT, as employees take at least one fewer work trip per week.
	Market-Rate Parking Pricing	M / H	-	-	-	H	H	H	\$\$\$	H	H - (SOVs Commuters)	Market-rate parking pricing entails incrementally increasing the cost of parking, which can generate revenue to fund TDM incentives and substantially change commute mode choice depending on the price relative to the market rate.
	Daily-Rate Parking	L	-	-	-	L	L	L / M	L / \$\$\$	M / H	M / H - (Hybrid Telework)	Daily-rate parking can generate revenue but may require the procurement of a parking management / reservation system. This enables employees to make a daily choice about how they get to work.
	Flexible/Shared Parking	M	L	H	-	H	L	L / M	L / M	L / M	L / M - (All Employees)	Flexible and shared parking may assist DAGS in reducing parking demand. This strategy may require the procurement of a

	TDM Strategy Name	Goal #1 	Goal #2 	Goal #3 	Goal #4 	Goal #5 	Propensity	Impact	Costs	Cost-Effectiveness	Degree of Potential Employee Impact	Notes
												parking management / reservation system.
EVs	Electric Vehicle (EV) Charging Stations	M	L	L	L	-	L / M	N/A	H / \$\$\$	L	L / M - (EV Drivers)	Installing EV charging stations is a supportive strategy that encourages EV adoption and serves state employees driving an EV. This strategy can also generate revenue.



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