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Prince George's County Planning Department: Commute Mode Interventions

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Abstract

Most Prince George's County Planning Department (PGCPD) employees drive to work in single-occupancy vehicles (SOVs). The department recently moved closer to the Downtown Largo Metro Station and its surrounding transit network, with the intent of encouraging employees to use alternative commute modes. One of the move's intended goals was to reduce the number of employees commuting by SOV. Unfortunately, the Metrorail station is 1.4 miles from the headquarters building, making it a lengthy and difficult walk, and the surrounding transit network remains inconvenient for commuters. Further, the area lacks multimodal transportation options to bridge this gap, a common issue with public transportation often known as the first mile/last mile problem. Moreover, employees are commuting throughout the Washington, DC-Maryland-Virginia (DMV) area, so a single solution is unlikely to have a meaningful impact on commute mode choices.

There are different possible policy interventions and alternatives, which vary in complexity, cost, and impact. Interventions include offering carpool matching and incentive programs, expanding micromobility networks, building bike infrastructure, providing transit subsidies, increasing the frequency of bus routes, and developing an awareness campaign highlighting the benefits and drawbacks of different commute modes. A combination of these interventions will encourage employees to change their commuting habits and reduce the number of SOV commutes.

Introduction

Commuting to work is an often-overlooked part of nearly everyone's day. Millions of Americans drive to work in single-occupancy vehicles (SOVs). Unfortunately, public transit is often not a robust travel alternative. Such is the case for many of the Prince George's County Planning Department's (PGCPD's) 200 employees, who commute to work in-person at the department's headquarters in Largo, Maryland. The department's work is focused on Transit Oriented Development, which helps meet modern-day goals to improve public transportation and limit reliance on cars.

Changes can and should be made to address the prevalence of SOV use, but the best course of action remains uncertain. Numerous studies have examined ways to improve public transit and best practices for revitalization and have contributed to this report's findings. However, there is a lack of studies about converting people from SOV to transit commutes.

This report aims to explore and explain the best course of action for the Prince George's County Planning Department to encourage employees to use alternative commute modes.

Literature Review

Commute Mode Choice

Commute mode choice is the transportation method (SOV, transit, etc.) a person decides to take work. Their decision is influenced by numerous conscious and subconscious factors that affect everyday choice-making. For example, bus transit is especially susceptible to three major influences: the quality and availability of information about service, the ways bus routes impact trip connectivity, and the ease of access to and location of bus stops (Roy and Ramakrishnan 1054). Also, improving walkability and safety to the bus stop is linked to increased use (Roy and Ramakrishnan 1069).

If a commuter doesn't need to rely on the bus, they will likely drive their personal vehicle. This is especially true if riding the bus adds time to the journey (Roy and Ramakrishnan 1046). The study also found that using real-time data to predict arrival times has near universal appeal, even for those opting out of riding the bus. At its core, commute mode choice usually comes down to choosing the most convenient commuting option.

Convenience is measured by the effort it takes to access the transportation and the trip duration. Longer travel times and unreliable service decrease the likelihood that someone will commute via bus (Anwar 1417). On the other hand, a direct bus service can have positive effects on use. Direct bus service, from home to work, like a school bus system, increases the likelihood that commuters will ride the bus (Anwar 1417).

Existing Interventions and Pitfalls

Research on interventions aimed at reducing SOV commutes has explored strategies that have had varying degrees of success (Whillans et al). These strategies focused on decreasing SOV use and highlighted both the potential and limitations of interventions. Understanding past successes and failures is critical for designing solutions that encourage employees to consider alternative commuting options.

Transit subsidies, sponsored by employers or local governments, is an intervention that significantly increases the use of public transportation. In their paper, *The Relationship Between Financial Incentives Provided by Employers and Commuters,* Ghimire et al. found that employer-provided transit subsidies increase the likelihood of commuting by transit, particularly among college-educated individuals (Ghimire et al. 108). Furthermore, they found that when employers disincentivize driving by eliminating parking subsidies it further shifts commute mode choice toward transit.

Similarly, in their paper *Understanding the Effects of Transit Benefits on Employees' Travel Behavior*, Bueno et al. highlighted how transit subsidies, such as passes and bike reimbursements, play a critical role in encouraging transit use. Their research highlights a policy in New York and New Jersey that requires employers with 20 or more full-time employees to offer commuter benefits, such as employer-sponsored transit passes or pre-tax commuter savings accounts. This policy led to significant increases in transit use, with nearly one in ten workers in New Jersey using transit—double the national average—demonstrating that financial incentives can influence commuting behavior (Bueno et al. 4). Financial

incentives can be highly effective in areas where transit infrastructure is already robust, such as New York and New Jersey, but regions like Washington, DC, may struggle to replicate this success due to inadequate infrastructure.

Walkability and accessibility are also key factors in promoting transit use. Ghimire et al. found public transportation ridership increased when jobs were located within a half mile of transit hubs that were easily reached by walking, biking, or e-scooters (Ghimire et al. 106).

Conversely, according to a report by the Center for Urban Transportation Research at the University of South Florida, carpooling and ride-sharing programs largely underperformed. Nelson et al. in their report *Transit in Washington, DC*, found that ride-sharing programs suffer from low participation rates, with success ranging from just 3% to 16% (236). One major barrier is the difficulty commuters face in finding reliable ride matches for carpooling, which involves coordinating shared routes, aligning schedules, ensuring safety and trustworthiness, and maintaining clear communication. These challenges often cause many to revert to driving alone. These challenges underscore that ride-sharing alternatives must be convenient and accessible, otherwise commuters may continue SOV commuting.

Another significant challenge is psychological and cultural resistance to alternative commuting modes. In their report *Using Behaviorally Informed Interventions to Promote Sustainable Transportation,* Whillans et al. highlight the deeply ingrained car culture in the US, where many commuters are unaware of or indifferent to the hidden costs of driving, such as tolls or parking fees. Moreover, transit is often perceived as inconvenient or difficult to navigate. The authors suggest that highlighting the cost savings of alternative commuting

modes and making it easier to switch from SOV commuting could help overcome these psychological barriers. However, this approach doesn't fully consider how these barriers intersect with actual infrastructure limitations, such as the availability of transit options in certain regions.

Our research also examined public transportation infrastructure in the Washington, DC metropolitan area. We found that despite significant public investment, transit infrastructure improvements have not necessarily resulted in increased efficiency or use. Outside the city limits, transit use remains strikingly low, accounting for only 3% of all trips in the region (Nelson et al. 236). This is especially concerning given the Washington Metropolitan Area Transit Authority's (WMATA) high operating expenses, $4.8 billion in fiscal year (FY) 2024, compared to the $3.4 billion in subsidies it received from federal, state, and local partners for bus and rail services ("FY24 Proposed Budget"). Simply providing transit subsidies to commuters isn't enough; transit must also be efficient, accessible, and aligned with user demand to succeed.

First Mile and Last Mile

A common issue for transit use is how a user gets from their house to the transit stop and from the transit stop to their destination. Transit doesn't always provide door-to-door service, resulting in a gap that needs to be bridged. Strong networks will get a user to within a mile of their destination, but that last mile is not served by public transportation. Users end up walking or biking, but this service gap is a common deterrent.

This paradigm is particularly relevant to the PGCPD because the closest transit hub (Downtown Largo Metro Station) is 1.4 miles away, requiring some form of micromobility, such as e-scooters, e-bikes, and e-boards, which have all gained popularity in recent years. One of the most common forms of micromobility are dockless e-bikes and e-scooters like Lime and Veo and docked e-bikes such as Capital Bikeshare. Privately-owned micromobility devices are also used for first and last mile connections, and bikes have been a popular micromobility option even before electric versions hit the market. These options can help close the gap between a user's last stop and their destination.

A study by Oeschger found that e-bikes were used to replace transit trips rather than connecting them and that micromobility can both supplement and replace trips depending on distance, availability, and traffic. For example, in Austin, Texas, e-scooters were found to replace trips made on foot but not via other transportation modes (Oeschger et al. 2). Rather than replacing SOVs, commuters can use e-scooters to bridge the gap to and from a transit stop. For distances that might also be walkable or bikeable, e-scooters are preferred by people who are younger or more educated; however, walking is still the preferred method for most people (Oeschger et al. 11). When choosing between dockless e-bikes and dockless e-scooters, users are willing to pay more for reduced travel time when using e-scooters (Oeschger et al., 3). Overall users are most likely to choose a familiar mode of transportation due to the confidence and predictability associated with that mode.

Walkability

In the realm of alternative modes of transportation, walking is often ignored due to its lack of speed and convenience. However, nearly everyone walks somewhere every day. Some amount of walking is part of every trip. Many improvements aimed at walkability can have positive outcomes for people using mobility aids or even baby strollers. Improved walkability must be considered when revitalizing infrastructure, as well as any other changes to the transit network.

Several factors should be considered when improving an area's walkability. The following play a role in reducing walkability or intent to walk:

- Pathways and sidewalks in a state of disrepair.
- Uncovered pathways, which leave pedestrians exposed to the elements (sunlight, rain, strong wind, etc.).
- A lack of pathways that deliver people to their destinations.
- Safety risks such as criminal activity and dangers from traffic (Cambra).

Jurisdictions across the country have implemented guidelines to improve the walkability of sidewalks and other pedestrian paths and making these improvements attracted more pedestrians. The San Francisco Planning and Urban Research Association (SPUR), tasked with improving walkability in San Jose, California, laid out seven elements to improve walkability (Messeidy).

Element	Design
Pathways	Should include shops, restaurants, and cafes.
Buildings	Should be located on the outside of the path, such that a road is surrounded on both sides by pathways and those paths have buildings on their non-road sides.
Cities	Should feature neutral space like green spaces, playgrounds, and outdoor markets.
Parking Lots	Should be located behind buildings or underground to avoid cluttering spaces visuals that are unappealing.
Infrastructure	Should scale with population size, so a bigger population would necessitate increased infrastructure (bigger sidewalks, roads, etc.)
Sidewalks	Should be maintained, well lit, and decorated with greenery or surrounding art.
Walkways	Should be free and clear. Bus stops, benches, streetlights, or telephone poles should be near the front edge of the walkway, not on the walking path.

A study in Lisbon, Portugal found the following interventions had a considerable positive effect on the walking experience and the incentive to choose walking as a commute mode:

- Upgrades and improvements to the quality of concrete, such that it is newer and smoother.
- Increases in the interconnectedness of paths, adding more paths, adding more route options.
- Reductions to the turning radius for cars, forcing them to take slower turns, which reduces car speeds.

- Improvements to crosswalks, including wider lanes and electronic signaling, which improves pedestrian safety (Cambra).

Multimodality

Multimodality is when a commuter uses two or more forms of transportation during a single trip (Liu 2). Transit trips are often multi-modal, with users walking to a bus stop, then transferring from a bus to a rail system, then possibly to a micromobility device such as a dockless e-bike for the last mile of a trip. Any transfer between systems creates an opportunity for issues to arise, whether it's increasing exhaustion or dealing with unpredictable traffic. These issues can accumulate, creating a negative perception that discourages commuters from consistently using transit (Meenar 10). A common form of multimodality are cycle transit users (CTUs), people who combine biking and transit to travel.

Krizek and Stonebraker found that improving public transportation's capacity to accommodate bikes with bike racks and bike lockers at transit hubs, would be the most cost-effective way to improve the experiences of CTUs (Krizek et al. 166). This finding is supported by a study of features that conjured the most negative emotions: bicycle facilities on transit, bike parking, road conditions, and other operational issues (Meenar 10). Knowing the interactions and geographic features that incite negative emotions can help urban planners avoid pitfalls and remediate existing pain points in the transit network.

Another common form of multimodality is the use of e-scooters and e-bikes. A study found that 10% of e-scooter trips in Washington, DC connect with the Metro (Liu 3). A key

component of multimodality and first mile/last mile connectivity is accessibility and comfort between the point of origin and destination. Micromobility devices may be a crucial tool for commuters to travel the 1.4 miles between the Downtown Largo Metro Station and the PGCPD.

Data Analysis and Findings

Data Provided

With information provided by the client, we found that the nearest transit hub is the Downtown Largo Metro Station, 1.4 miles from the PGCPD, with service via the Blue and Silver lines. Two bus routes serve the department: 21x and 28.

The client also provided employee residence zip codes. Upper Marlboro, Bowie, Silver Spring, and Hyattsville all have between 8 and 18 employees, and are in different directions from the headquarters.

Any singular solution based on these locations will only benefit up to 18 employees, or 9% of the department. Due to the geographical variations in commute origin, the impact of an intervention is limited to the number of people traveling through a given transit corridor. For example, more frequent bus service only benefits those who are on the bus lines to begin with.

There is no one-size solution for this issue, and for any action to be effective it must be multifaceted. Further, we also know that SOVs are the overwhelming form of commute mode in the region. In 2023, 69.2% of workers in the DMV commuted via SOV from neighboring areas (Journey to Work). Encouraging transit commutes is a challenge throughout the region and isn't specific to the PGCPD.

Site Visit

On September 24th, 2024, the team conducted a site visit to analyze and evaluate the needs of the Prince George's County Planning Department. We found several issues related to walkability, bikeability, and the accessibility of alternative transportation modes. These

factors informed the analysis and recommendations. We believe that changes to walkability, bikeability, and overall accessibility will encourage the use of alternative commute modes.

PGPCD's existing bicycle infrastructure such as bike parking racks don't comply with local ordinances and are insufficient for long-term storage. Zoning ordinance 27-6309 states that "At least four of the required spaces serving nonresidential development shall be located within 50 feet of the main entrance to the use. They shall be located where they do not interfere with pedestrian traffic and are protected from conflicts with vehicular traffic" (Prince George's County Zoning Ordinance). The existing racks are inconveniently far from the main entrance, and they aren't covered. Further, there are no sidewalks or pathways to the bike racks from the building entrances and cyclists must ride in the driveway to reach the bike racks. There is room for only 18 bikes at the racks, yet 200 people work at the PGCPD building. Due to insufficient space and overhead cover, many bikers bring their bikes into the office rather than expose them to the elements. The difficulties storing bikes are a significant deterrent to using them as a commute mode.

Figure 1 – Existing Bike Infrastructure

In addition to a lack of biking infrastructure at the PGCPD building, the surrounding area is also not conducive to biking. The speed limit on McCormick Drive is 30 miles per hour, the roadway has no speed limiting elements such as speed bumps or curves and is four lanes wide with sparse crosswalks. There are no bike lanes, but there is sidewalk between the PGCPD building and the Downtown Largo Metro Station. However, those sidewalks are narrow, without streetlights, and in many spots are covered with low hanging tree branches, which makes the path difficult to use for pedestrians and cyclists.

The bus stop near the PGCPD building doesn't have an adjacent crosswalk. To cross safely, one must walk about 10 minutes north to the four-way intersection, which is not pedestrian-friendly. Moreover, the intersection doesn't have any signals to force cars to slow down enough for pedestrians to cross safely. Further, walkers must cross four traffic with no refuge in the middle (Figure 2). Currently, given the level of traffic, it's unlikely that pedestrians can cross all four lanes in one light cycle. Overall, the area is not friendly to pedestrians, and there are no safety measures in place to protect them.

Figure 2 – Pedestrian Infrastructure at Intersections

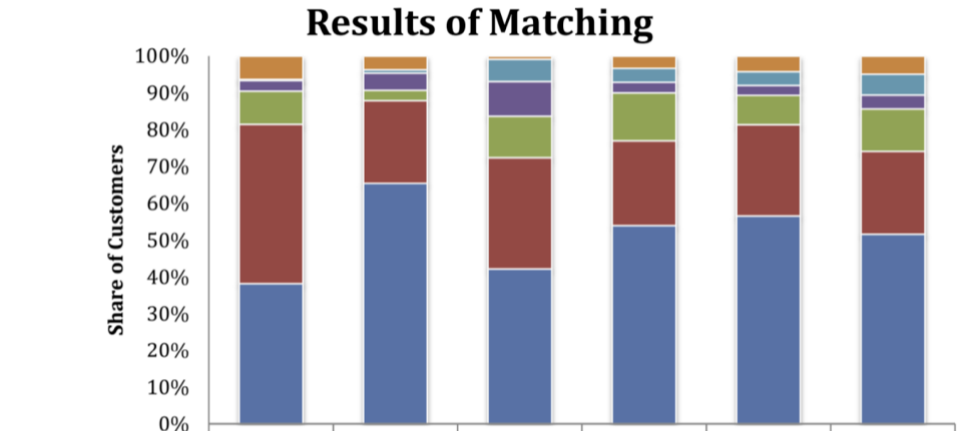
Beyond the lack of pedestrian and bicyclist infrastructure, the buses that serve the PGCPD building come only every 30 and 45 minutes, not frequently enough for commuters. Both routes stop at the Downtown Largo Metro Station and the New Carrollton Metro Station. This sparse service combined with the inconvenient and dangerous street crossing makes bus travel unattractive.

Subsidies and Tax Credits

Incentivizing employees to use public transit or move away from SOV commuting isn't a new concept. The Federal Bike Commuter Benefit Tax Credit provides up to $81/month for employees who regularly commute by bike (Harper). Tax credits and similar financial incentives increase the likelihood that commuters will use transit rather than SOVs. A study found that transit incentives reduced the probability of driving by 16% and increased the likelihood of using public transportation by 15% in the New York-New Jersey region (Bueno et al. 10). This suggests that benefits such as public transportation passes, vouchers, or reimbursements could be highly effective in encouraging PGCPD employees to switch from driving alone to transit.

Additional research indicates that encouraging bike commuting through bike-related transportation benefits increases the probability of cycling to work by 2% (Bueno et al. 10). Further, private transport-related benefits such as free car parking or mileage reimbursement are strongly associated with a low likelihood of choosing public transportation or other sustainable commuting modes, suggesting that these types of benefits should be minimized to reduce car dependency.

A study of Atlanta metro area commuters found they had an average commute of 12 miles but only 9% used transit. However, employer-provided transit subsidies increased the likelihood of transit commuting by 156%. This effect was especially pronounced among college-educated individuals. However, employees who had free or subsidized parking were 71% less likely to commute via transit than their counterparts (Ghimire et al. 1).



	District 1	Jacksonville	District 3 - Pensacola	District 3 - Tallahassee	District 4 and District 6	District 7
incomplete data	6%	4%	1%	3%	4%	5%
joined VP	0%	1%	6%	4%	4%	6%
joined CP	3%	5%	9%	3%	3%	4%
contact, no match	9%	3%	11%	13%	8%	12%
list, did not contact	43%	22%	30%	23%	25%	22%
no list	38%	65%	42%	54%	57%	52%

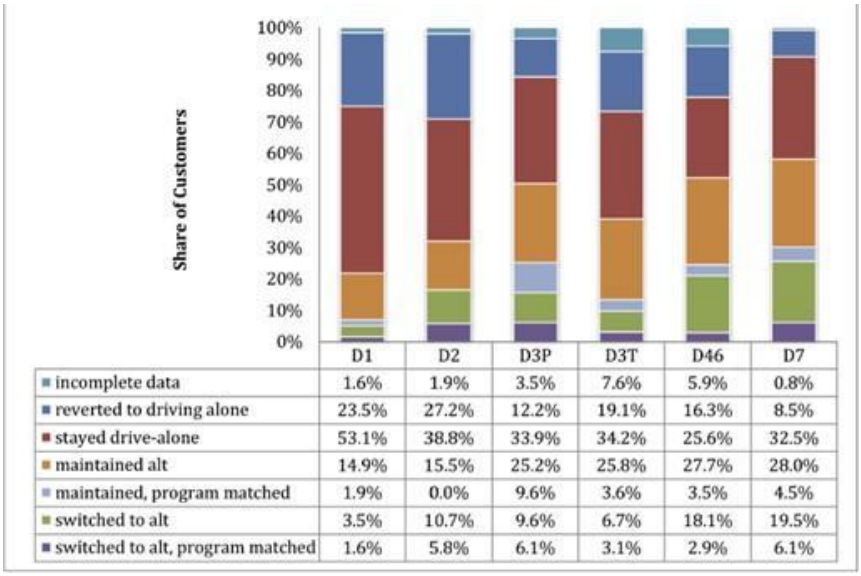
Figure 3 – Results of Carpool Matching Survey

A South Florida case study observed opportunities and challenges to changing commute behavior in a carpooling and vanpooling commuter assistance program. The data in Figure 3 show that carpooling and vanpooling aren't particularly popular commuting options. Only 3% to 16% of those who received a match achieved a successful match, suggesting a limited impact for these programs (Winters 53). Additionally, a large portion—

between 22% and 43%—didn't attempt to contact anyone on their match list, while 3% to 13% tried but were unsuccessful in securing a match (Winters 53). This lack of engagement underscores that simply providing match lists may not be enough to motivate significant ridesharing participation. Florida's experience reveals that ridesharing solutions need to address barriers such as scheduling mismatches, convenience, and a general lack of interest or motivation among commuters. This case study suggests that for carpooling to become a more popular option, strategies like personalized match recommendations, clear communication about benefits, and incentives for participation might be necessary. Other regions can learn from Florida's efforts by recognizing the importance of targeted engagement and addressing the specific needs and reservations of potential participants to make carpooling a viable and appealing commuting choice.

The data in Figure 4 reveal key trends in how participants in Florida's ride matching programs adjusted their commuting habits. A substantial portion—between 26% and 53%—continued to drive alone before and after engaging with the program, indicating limited success in changing commuting choices. Additionally, between 8% and 27% initially used alternative modes but reverted to driving alone after contacting the program, potentially due to inconvenience or an inability to find suitable rideshare matches. However, a smaller group, around 1% to 10%, successfully joined a carpool or vanpool through the program, and an additional 2% to 6% who hadn't previously used alternative modes also reported joining a carpool or vanpool. Between 15% and 28% of participants consistently used alternative modes before and after contacting the program, though not necessarily in program-

organized carpooling or vanpooling. Furthermore, between 3% and 19% shifted from driving alone to using alternative modes after engaging with the program and showed some openness to change.



	D1	D2	D3P	D3T	D46	D7
incomplete data	1.6%	1.9%	3.5%	7.6%	5.9%	0.8%
reverted to driving alone	23.5%	27.2%	12.2%	19.1%	16.3%	8.5%
stayed drive-alone	53.1%	38.8%	33.9%	34.2%	25.6%	32.5%
maintained alt	14.9%	15.5%	25.2%	25.8%	27.7%	28.0%
maintained, program matched	1.9%	0.0%	9.6%	3.6%	3.5%	4.5%
switched to alt	3.5%	10.7%	9.6%	6.7%	18.1%	19.5%
switched to alt, program matched	1.6%	5.8%	6.1%	3.1%	2.9%	6.1%

Figure 4 – Changes in Customers' Patterns of Mode Use

It appears many commuters are initially willing to try alternative commuting options but often revert to driving alone. This pattern suggests that while there is openness to exploring carpooling, vanpooling, and other methods, barriers such as inconvenience, inflexible schedules, or insufficient program support may lead commuters back to solo driving. For Prince George's County, this implies that any proposed alternative commuting solutions should address these barriers directly, perhaps through more personalized matching, incentives, and ongoing support, to encourage sustained participation in alternative modes of transportation.

Bikeability and Walkability

The physical experience of walking or biking greatly impacts individuals' willingness to use those methods of transportation. Improvements to sidewalk material and structure, changing the layout or design of an area, and making pedestrian safety improvements all increase the likelihood of people walking (Cambra et al. 12). The Downtown Largo Metro Station is underused due to its limited pedestrian access and lack of surrounding amenities such as retail and employment centers. In Lisbon, Portugal, these types of improvements were found to increase walking experience by anywhere from 1.92 to 2.37 points on a scale from 1-10 when rated by pedestrians.

There are seven best practices for sidewalk and pathway design.

1. Pathways should access different shops and restaurants.
2. Buildings should be on the path's outer perimeter (the road in the center with sidewalks on both sides, and buildings fronting the sidewalks).
3. Cities should have plenty of greenery, including more open spaces like parks.
4. Parking should be located out of view, so it doesn't dominate the visual real estate.
5. Infrastructure should be sized for the population; a larger population will require more infrastructure.
6. Pathways should be maintained and not fall into disrepair.
7. Nothing should block the pathways, especially infrastructure (Cambra et al. 4-6).

Regarding infrastructure that integrates bicycles and transit, different interventions have different impacts. Currently, there are many points in a trip where cycle transit users (CTUs) face challenges, such as bicycle facilities on buses or trains, bike parking, poorly maintained or few bike lanes. These and other operational issues can have large negative impacts on a CTUs' mood and favorability toward biking and public transit (Meenar et al. 10). Improvements to bike parking at transit stops and bike storage on transit, such as bike racks on buses and trains, was found to cost anywhere from $97 to $323 per CTU, and had favorability ratings ranging from 18.5% to 47.1% depending on the improvement (Krizek et al. 166).

Dockless Micromobility

Dockless micromobility options include e-scooters and e-bikes (Figure 5). These newly popular devices are battery-powered and are paid for and unlocked via a smartphone application (app). Micromobility devices can both supplement and replace public transit or personal vehicle trips depending on the area. In Austin, Texas e-scooters were found to replace walking trips, but not transit trips (Oeschger et al. 2).

Dockless micromobility devices are most effective in the first and last miles of transit trips and are used for trips between walking and biking distances. Studies in Washington, DC have found that 10% of e-scooter trips connect with the Metro (Oeschger et al. 3). A 2019 survey found that out of 96 million dockless micromobility trips 45% replaced personal vehicle/ride hailing trips (Liu et al. 1).

Figure 5 – Lime Scooters

Buses

Given that the closest Metro station is 1.4 miles away from the PGPCD building, buses are one of the only ways to make last-mile connections. If the bus is easily accessible by safe, well-maintained paths and crosswalks, people are more likely to use it. This is one of the top two policy recommendations highlighted in the literature. The second is to provide private direct bus service from home to work location. If a bus isn't convenient, people won't use it. Bus headways, the time between scheduled buses, that are longer than 10 minutes are inconvenient. The 21x and 28 lines serving the PGCPD building have 30- and 45-minute headways, making them not ideal. An increase in travel time decreases the likelihood that a commuter will take a bus. This aligns with the preliminary findings from our survey, which indicate that people are unwilling to increase their commute times significantly by switching their transportation mode.

However, if buses are convenient, people will consider taking them. A 2016 study by researchers at the University of Wollongong (UOW), Australia found that direct bus service

generated the biggest increase, 48% compared to a 10.2% increase from park-and-ride services (Anwar et al. 1421). This suggests that increased access to bus service linking key destinations would be useful in altering commute modes.

Part of the difficulty in getting people to switch commute modes stems from their understanding of the alternatives and their potential hurdles. People are resistant to change, and because SOVs are the norm, it's difficult for commuters to see the full costs of driving such as electronic tolls and parking fees that are automatically deducted. Emphasizing cost savings when commuting via alternative methods is very effective in changing habits compared to other behavioral-based interventions. However, these types of interventions have at most a 9% impact on commute mode choice (Whillans et al. 44).

Survey Data

Our team created a survey as a screening tool prior to holding focus groups to gather data about employee commute mode choice and factors in commuting decisions. The survey's goal was to understand how people commute and their perspectives on alternative commute modes. We gained significant insights as employees shared information about why they could only commute by car. Ideally, we would have completed focus group interviews based on the survey results but ran out of time. Instructions and recommendations for these focus groups are included in Appendix A.

The survey gathered preliminary information on employees' commute methods and their willingness and ability to use alternative commute modes. We received 53 responses, about 26% of the Planning Department employees at the PGPCD building. Most of the

responses came from the Community and Countywide Planning Divisions, from employees who reside across the DMV.

This was an academically rigorous survey that provided useful demographic data about commute modes and decision factors. It found that 80.8% of respondents drive alone to work, while the remaining 19.2% use some combination of Metrorail, bus, bicycle, and carpool. Many respondents use multiple types of transit in one trip, or alternate the type of transit they use, for example driving two days a week and taking the Metro one day. Of the respondents, 49.1% have never considered an alternative method of commuting, while 45.3% say that they have considered it. The remaining 5.7% state that there are no alternative methods available for them, or that it would take too long (as much as 2 hours).

We also asked respondents about what they would do if their usual commute mode became unavailable. These responses were grouped into six categories: bicycle, carpool, Metrorail or bus, telework or take leave, borrow/rent a car or use rideshare, and no way to adjust (Figure 6).

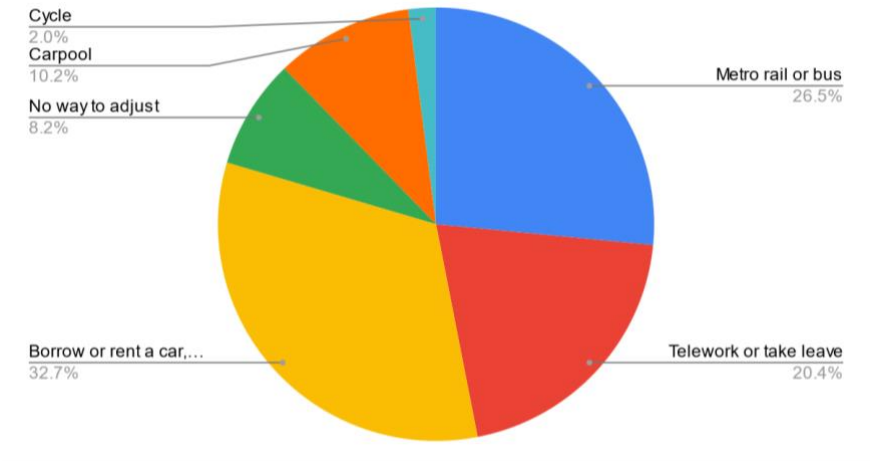


Figure 6 – How Employees Would Adjust Commute

Recommendations

Employees gave various reasons why they couldn't commute via public transportation, including living too far from PGCPD, which isn't served by transit; the long distance between the Metro stations (Downtown Largo and New Carrollton) and the headquarters building; and the longer travel time via alternative commute modes (over an hour in some cases). This survey provided good surface-level insight into the barriers to considering alternative commute modes. Following up with focus groups would help determine the policies that would have the most impact.

Our recommendations are grounded in an evidence-based approach informed by a literature review and the collection and assessment of data on commuting patterns. The analysis focuses on addressing the specific challenges employees face when traveling from the Metro station to the office and reducing SOV commutes.

To evaluate alternatives and identify the most effective solutions, we applied four criteria:

1. Cost Effectiveness: the financial feasibility of each recommendation
2. Implementation Viability: the practicality of execution given available resources and timelines
3. Outcomes and Expectations: the potential to improve commuter experiences and achieve desired results
4. Client Preferences: alignment with stakeholder priorities and anticipated adoption levels.

These criteria balance tradeoffs and propose targeted, actionable recommendations tailored to the unique commuting challenges identified in this project.

Infrastructure Revitalization

Given the 1.4-mile distance between the Metro station and the Planning Department building, our initial site visit identified several infrastructure deficiencies that deter commuters from walking or biking. These include narrow and uneven sidewalks, poorly marked or unsafe crosswalks, the absence of dedicated bike lanes, insufficient signage, and vegetation obstructing pathways. Addressing these deficiencies through targeted improvements—such as sidewalk expansions, protected bike lanes, enhanced wayfinding signage, and vegetation maintenance—can significantly improve safety, accessibility, and overall commuter experience.

Importantly, crosswalk enhancements must extend beyond simple repainting to ensure pedestrian safety and visibility. Comprehensive solutions should include raised crosswalks, pedestrian-activated flashing beacons, improved lighting, and traffic-calming designs like curb extensions or speed bumps. These interventions are essential to ensure that drivers notice pedestrians and yield appropriately, creating a safer commuting environment.

From a cost-effective perspective, these improvements require a moderate investment but have the potential to yield substantial long-term benefits by improving safety for everyone and encouraging sustainable commuting. In terms of implementation viability, smaller-scale actions such as painting crosswalks and installing bike racks can be achieved relatively quickly, while larger changes, like sidewalk expansions, may take more time. The outcomes and expectations are promising, as these enhancements would significantly improve the pedestrian and cyclist experience and contribute to the broader community well-

being. Finally, client preferences suggest a willingness to embrace these changes, provided they are integrated into a larger initiative to promote meaningful infrastructure revitalization. These improvements align well with both departmental goals and the needs of commuters.

Increase Micromobility Options

The 1.4-mile distance between the Metro station and the PGCPD building presents a challenge for many commuters, particularly those for whom walking is inconvenient or impractical. Micromobility options, such as e-scooters (e.g., Veo or Lime) and e-bikes through Capital Bikeshare, offer a fast, efficient, and low-effort alternative that could significantly improve the commuting experience. These options not only address the commute's physical barriers but also add flexibility for employees, allowing them to cover the distance quickly regardless of weather or time constraints.

Implementing micromobility solutions is both practical and cost-efficient. Rather than requiring major infrastructure investments, these programs rely on partnerships with existing providers, making them relatively low-cost. Minor adjustments, such as creating designated hubs or parking spaces near the Metro and office, would ensure a smooth rollout. Coordination with providers to expand service areas would build on ongoing county efforts, such as the expansion of the Capital Bikeshare program, further streamlining the process. The expected outcomes of introducing micromobility are substantial. Commuters could reduce travel time and effort, increasing the appeal of public transportation as part of their journey. Micromobility options also enhance accessibility for employees who find walking challenging or time-consuming. On a broader level, the presence of micromobility hubs near the Metro

station and PGPCD building sends a clear signal that the Planning Department is committed to innovation and meeting the needs of its employees. This shift could encourage more employees to explore non-car commuting options, reducing parking demands and easing congestion. Additionally, the flexibility and ease of use offered by e-scooters and e-bikes make them an attractive option, likely to result in strong adoption rates among employees. By incorporating micromobility options, the Planning Department can reduce the number of employees driving to work by providing a viable alternative for transit commuters who find walking the 1.4 miles impractical.

Carpool Matching Program

A carpool matching program can reduce the number of employees commuting alone by facilitating shared commutes. By investing in software that matches employees based on their zip codes, PGCPD can connect individuals living in nearby areas such as Hyattsville, Silver Spring, Bowie, and Upper Marlboro, making carpooling a practical option. This approach aims to improve commuting efficiency, ease parking demand, and encourage collaborative transportation solutions. The program is cost-effective, requiring only a minimal investment in software procurement and maintenance, making it an affordable initiative for the department. While implementation is feasible, it would require a well-planned education campaign to highlight the benefits of carpooling and ensure high participation. Reliable software would be essential for ensuring accurate matches and ease of use. However, the expected outcomes should be approached with caution. As a case study in South Florida (see page 17) illustrates, carpool programs often struggle with widespread adoption, largely due

to employees' preferences for flexibility and the challenges of aligning individual schedules. While there is some interest among employees, participation may be limited unless supported by targeted outreach and incentives to address potential concerns. Though predicting the success of a carpool matching program can be challenging, it remains a feasible solution to reduce single-occupancy vehicle trips, especially when combined with strong promotional efforts and active engagement from the department.

Conclusion

The goal of this study is to provide options that encourage PGPCD's 200 employees who drive to work to use alternative commuting modes. After extensive research and a site visit, which included walking the 1.4 miles from the PGCPD building to the Downtown Largo Metro Station, we recommend three options to address the issue—investing in infrastructure revitalization, increasing the availability of micromobility options, and introducing a carpool system for the employees.

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Appendix A

Focus Group Addendum

Though we didn't have time to complete the focus groups, we have included recommendations and guidelines for conducting those interviews.

Start by organizing the field of potential participants. We advise grouping individuals by the length of their time with PGCPD (referred to as a "time bracket"), resulting in a minimum of five groups (based on our survey).

Include SOV commuters and alternative mode commuters in each group. The maximum group size should be three people per commute mode group, and each group should have the same ratio of commute type. Avoid picking people from the same time bracket per commute mode, so that you won't have two individuals from the same time bracket in either commute mode group. For example, in interviewing three people per commute mode, choose three individuals from different time brackets, perhaps a person in each of the 0-3 years, 5-7 years, and 10+ years brackets, each who drives an SOV to work. You can select someone from the 10+ years bracket who doesn't drive an SOV to work, but the three in the non-SOV group shouldn't have the same time brackets as anyone else within that commute mode group. At this point you should have (by our recommendation) a maximum of six total participants split into an SOV driving group and a non-SOV driving group, each with different time brackets within the commute mode groups.

At this point you can begin conducting interviews. The completed interviews should deliver a better idea of the most impactful actions, as well as which results resonate more than others. But be mindful that this is a comparatively small sample size.

Below are sample interview questions by commute mode group. These questions can be modified and added to but ask follow-up questions when appropriate.

SOV Commuter Questions:

- Why do you choose to drive to work?
- Have you ever considered taking public transportation to work? How do you think it would fit into your schedule and lifestyle?
- How would you get to the office by public transportation?
- Would you be willing to carpool? Would you be willing to carpool if the department matched you with others you could carpool with?
- In an ideal world what would need to be done for you to get to work without driving?
- Would you be willing to take an alternative commute method if the changes you mentioned earlier were put in place?
- Besides distance, what is the biggest factor in keeping people from choosing alternative forms of commuting?

Non-SOV Commuter Questions:

- How do you get to work? Do you use this method every time you commute?
- Why do you choose to commute this way?
- How long have you been commuting this way and what is keeping you from changing to driving?

- Are you satisfied with this method of commuting? Do you think it could be improved? How?
- Do you think the transit facilities (bike racks, bike lockers, crosswalks, sidewalks, bus stops, etc.) at and around the office are sufficient? If not, what specifically is lacking?
- Are there any recommendations you would make to decrease the number of individuals driving to work?