

DATE: October 29, 2024

TO: Council Transportation Committee

FROM: Kirstin Hinds, Economic Development Strategist
John Lang, Economic Vitality Manager

VIA: Christian Murdock, Community Development Director

SUBJECT: **Personal Delivery Device Program Update**

RECOMMENDATION

Receive an update on relaunching the Personal Delivery Device Pilot Program and provide feedback on program augmentations.

BACKGROUND

A personal delivery device (PDD) is an automated or remotely piloted device that contains storage space for packages, food, and other delivery items. The PDD Pilot Program (Pilot Program) was created in 2018 in response to the City being approached by PDD companies wishing to operate within the City’s jurisdiction and the City not having policies to regulate the use of PDDs in the public right-of-way. A Pilot Program was approved by the City Council (Attachment 1—City Council report dated February 27, 2018). The Pilot Program provided guidelines and the approval process, including operational and insurance requirements for companies interested in operating in Mountain View. One company, Google LLC, participated in the Pilot Program. They partnered with the Mountain View Public Library to operate a “Book Bot” PDD. The program allowed Library patrons to return Library materials via a PDD, and the program ran for three months from March 2019 through June 2019.

In March 2020, the COVID-19 global pandemic (COVID-19) began, and businesses had to change their regular operations. The City Council directed staff to implement programs to support small businesses impacted by COVID-19. The Pilot Program emerged as a method to support essential businesses and to allow the public to stay at home. The City Council approved continuation of the Pilot Program (Attachment 2—City Council report dated May 5, 2020) with Starship Technologies as a participating company.

To operate in Mountain View, Starship Technologies was required to obtain a Mobile Vending Permit and sign an addendum to the Mobile Vending Permit, referred to as the Personal Delivery

Device Program Addendum (Addendum), stipulating the terms and conditions regarding PDD operations. Per the Addendum, Starship Technologies was permitted to make deliveries from businesses to households within the specified geographic area of Evelyn Avenue, Calderon Avenue, El Camino Real, and Shoreline Boulevard (see Figure 1).



Figure 1: Starship Technology Area of Operation

Businesses within the area of operation opted in to use Starship Technologies (Starship) PDDs for deliveries. In addition to the businesses listed in Table 1, businesses who utilized Starship PDDs for deliveries included Das Bierhauz (Olympus Caffè), Doppio Zero, Ephesus, Kakaroto, Olympus Caffè & Bakery, Poke Bar, Rumble Fish, Sakoon, St. Stephens Green, Steins, Tea Era & Queen House, and Umai Sushi.

As noted in Table 1, Starship provided data to the City for three quarters showing the number of deliveries made, associated incidents, and general time frame of deliveries.

Table 1: Operational Data from Starship Technologies

Time Period	Number of Deliveries	Most Orders Processed	Incidents Noted by Starship*	Most Orders Occurred
Quarter 4, 2020 (October 3, 2020 to December 29, 2020)	1,008	Ava’s Market, 1 oz Coffee, Crepevine	0	11:00 a.m.–6:00 p.m.
Quarter 1, 2021 (January 1, 2021 to March 29, 2021)	907	Ava’s Market, 1 oz Coffee, Crepevine	1	11:00 a.m.–6:00 p.m.
Quarter 2, 2021 (April 3, 2021 to June 26, 2021)	728	Ava’s Market, 1 oz Coffee, Crepevine	1	11:00 a.m.–7:00 p.m.

* Incidents are defined by \$200 more of damage as reported by Starship.

The report for Quarter 2-2021 also included cumulative data from the beginning of operations in Mountain View, shown in Table 2:

Table 2: Cumulative Data from Start of Operations to Q2-2021 from Starship Technologies

Number of Cumulative Deliveries	19,600
Number of Cumulative Miles Driven	17,600 miles
Estimated Reduction in Number of Vehicle Miles Traveled	12,300 miles
Estimated Reduction in CO ₂ Emissions	5,296 kg

In their report, Starship stated that the calculation for the estimated reduction in CO₂ reflects the amount of kilograms of CO₂ that would have been emitted if Starship’s customers had used a vehicle (with a traditional combustion engine) to transport their goods rather than the PDD. Calculations were determined by Starship.

Comments and Inquires Received During the Pilot Program

From 2019 to 2021, the City received eight *Ask Mountain View* tickets associated with the PDDs. Two of the eight *Ask Mountain View* inquiries documented direct interactions with the devices that resulted in the devices not appropriately yielding and creating space for pedestrians on the sidewalk.

Staff is aware of two other email communications that were received from a member of the public regarding the device not yielding space for them on the sidewalk and a device operating on a trail.

The Pilot Program officially sunset on December 31, 2022.

Pilot Program Augmentations

In October 2022, staff began working on improving the program learning from Best Practices and conducting additional interviews with other cities. Staff presented new augmentations to the Pilot Program to the Downtown Committee on [December 5, 2023](#), and the Bicycle/Pedestrian Advisory Committee (BPAC) on [January 31, 2024](#), and received feedback. The BPAC feedback included greater consideration for e-bike delivery, surveying the Mountain View community on interactions with PDDs and impact on enjoyment of the sidewalk, concerns with PDDs in the bike lanes, in particular blocking the bike lanes, and a need for measurable metrics.

Delivery of goods continues to scale and grow. A study by the International Market Analysis Research and Consulting Group (IMARC) forecasts the U.S. food delivery market to reach [\\$68.6 billion by 2032](#), a nearly 10% market growth rate over an eight year period. IMARC points to smartphone usage and the growing preference for convenient and fast services among consumers as the major market drivers for delivery services.

Today, there are no current operators of PDDs in Mountain View, but the Economic Development Team continues to field inquiries from interested vendors.

ANALYSIS

On [June 4, 2024](#), staff presented to the Council Transportation Committee (CTC) on a proposed new Personal Delivery Device Program. Feedback received from CTC included:

- **Data:** Make data available to the public and provide information on successful use of the devices.
- **Operations:**
 - Require yielding to pedestrians, bicycles, cars, and animals (people, bikes, and animals are priority).
 - Continue to operate as a Pilot Program. Use the data gathered in the pilot to consider whether to move into a full-time program.

- Clarify where the PDDs are allowed to operate:
 - o Do not crowd out people (keep number in operations low);
 - o Do not allow within pedestrian mall (use alleyways instead); and
 - o Do not allow on trails.
- Ask companies to define their routes/network in an application.
- Consult with the Active Transportation Committee on best routes.
- No/very little stopping on curb ramps.
- Speed.
- **Size:** Provide more research on maximum size (weight, height, width) of devices (500 pounds concerning; want to ensure width is no larger than sidewalk).
- **Other questions:**
 - How are other cities operating PDD programs?
 - Do restaurants need to opt in to use the service? Do they need to pay for it?

Existing PDD Pilot Programs

Staff conducted additional outreach to local jurisdictions to understand their experiences with PDDs. Based upon lessons learned, staff is using the information to help formalize the Pilot Program to both support growing innovation and Mountain View's existing business community.

Staff connected with other city colleagues in Concord, Los Angeles, San Ramon, Santa Monica, and West Hollywood, where all have existing pilot programs in various phases.

- Operations have generally been a positive experience for each community.
- Where PDDs are allowed to operate varies by city. Los Angeles, Santa Monica, and West Hollywood only allow PDDs in sidewalks and crosswalks, and travel lanes may be used in case of conflict. Concord and San Ramon only allow operations within designated bicycle lanes and are piloting the use of PDDs in travel lanes for deliveries in specific areas.
- Each city is operating a pilot program with one or two companies in operation.
- A majority of the communities interviewed are exploring program expansions.

Businesses may utilize PDDs for deliveries either through existing delivery service carriers who have agreements with PDD companies or by opting to work directly with the PDD company. How businesses and PDD companies interact will vary by company.

PDD Pilot Program Goals

In formulating modifications to the Pilot Program, Economic Development staff set four goals, including:

1. Support increased demand and economic growth associated with autonomous vehicles and support changes in shopping and dining patterns, including use of delivery devices for retail, medical supplies, and food purchases.
2. Provide opportunities for local, small businesses to expand their customer reach and engagement.
3. Create opportunities for innovative Mountain View-based companies to partner with the City.
4. Help reduce pollution by reducing greenhouse gas emissions through use of single-occupancy vehicles.
5. Reduce congestion downtown from on-street parking and double parking resulting from for pick-up.

The Pilot Program also aligns with the Economic Vitality Strategy Action Item 3.C.5 (Advanced Industries), which is to “identify businesses with synergistic relationships to Mountain View’s strongest existing sectors to promote and support new business investment.”

Proposed PDD Pilot Program Elements

Based on research from other communities along with recent interactions with companies interested in participating in the Pilot Program, staff has developed new program considerations, ensuring pedestrians and other sidewalk users are safe. Program augmentations and changes reflect input and feedback from both the Downtown Committee, Council Transportation Committee, and BPAC. The suggested Pilot Program augmentations are outlined in Table 3. Feedback and direction from the Council Transportation Committee will be used to further refine the Pilot Program details with guidance from Public Works staff. The final draft of the Pilot Program will be brought back to the Council Transportation Committee in early 2025.

Table 3: Mountain View Current and Proposed PDD Pilot Program

Topic	Current Program (Maintaining)	Program Augmentations (*) / Additions (+)
Company Requirements	No more than three PDD companies can participate at once.	
	No more than 10 devices per company in operation at one time.	
		+ Maintain a physical office/warehouse space in Mountain View, beyond the device itself.
		+ Priority given to companies currently based in Mountain View.
Device Operations	Gross weight of the device is less than 100 pounds, excluding cargo.	<p>* For devices that operate on sidewalks, maximum gross weight of the devices is less than 100 pounds, excluding cargo.</p> <p>* Devices on sidewalks shall not exceed 3' in width, consistent with City Code Section 19.53, "Operating bicycles, electric bicycles and transportation devices on sidewalks."</p> <p>+ Consider allowing devices to operate within bicycle lanes and/or travel lane shoulders where the posted speed limit is less than 35 mph (device speed limits defined in Safety Requirements section below). Devices permitted to operate within bicycle lanes may exceed 100 pounds but not more than 300 pounds, excluding cargo.</p>
	Human handler to be present with each operating device for the first six months.	* Fully autonomous PDDs must have a human handler present with each operating device for a minimum of six months, to be evaluated on a case-by-case basis. Semiautonomous PDDs (devices with a remote human handler) may not be required to have a human handler present.

Topic	Current Program (Maintaining)	Program Augmentations (*) / Additions (+)
	Contact information required (website, address, and contact information of company).	* Contact information is required to be listed on each device for both the City and vendor (website, address, and contact information). Information should also be in Braille.
		+ Add clarifying language related to what types of public rights-of-way PDDs are allowed to operate (i.e., allowed on certain sidewalks, certain bicycle, and travel lane shoulders, where the speed limit is less than 35 mph; they are NOT allowed on public trails). The PDD companies will be required to use geofencing capabilities to designate permitted versus unpermitted areas as well as designate path of travel for any arterial crossings or high-injury network areas. The PDD companies shall identify preferred routes within the parameters set by the City with final approval from City.
Data Requirements	Documentation of incidents involving an injury to an individual/animal.	+ Add performance measures, including number of deliveries, miles traveled, time of day completed by each PDD, incidents involving interactions with the public, other incidents or malfunctions within the public right-of-way, estimate of CO ₂ emissions reduced from delivery trips, and heat map of routes. + Provide a report every quarter and quarterly check-in with City staff. + Document all public inquiries, incidents, and complaints (spreadsheet summary). + Provide feedback on sidewalk infrastructure or traffic infrastructure that could pose safety or operational challenges for pedestrians and or PDDs.
Safety Requirements	PDDs are not to unreasonably interfere with pedestrians or traffic.	+ Minimize stopping on a curb ramp, in front of pedestrian push buttons, and within bicycle or travel lanes.

Topic	Current Program (Maintaining)	Program Augmentations (*) / Additions (+)
	<p>Yield to Pedestrians, including people on skates, skateboards, and bicyclists.</p>	<p>+ PDD companies are to provide a plan to stay updated on road closures and construction as well as not interfering with emergency responders.</p> <p>+ PDD speed limits on sidewalks shall be limited to the pace of pedestrians present on the sidewalk, not to exceed 2 mph faster than the average walking speed.</p> <p>+ PDD speed limits in the bicycle lane/travel lane shoulder shall be limited to the pace of cyclists present, and not exceed 15 mph. PDDs shall exercise due care under circumstances and conditions.</p> <p>+ PDD companies shall identify the safest corrective actions in any instance of conflict.</p>

Additional elements of the proposed Pilot Program include:

- Economic Development staff will work with other City staff to align the program with other existing City policies, such as the Mobile Vending Permit program (regulates use near parks and schools, and hours of operation), Active Transportation Plan, and other relevant City plans, policies, and existing guidelines. Additionally, Economic Development staff will work with the Police Department to ensure the program aligns with the California Vehicle Code.
- Add compliance measures to the agreement, such as revocation of permits when found noncompliant and develop an administrative fee structure.
- The proposed Pilot Program rules and regulations would be incorporated in an agreement between the City and the PDD company. Additionally, the PDD company is required to apply for Mobile Vending Permit with the City of Mountain View.

The proposed enhancements to the Pilot Program provide more opportunities for the City to collect data on the performance of PDDs operating within the City limits.

NEXT STEPS

After discussing the program augmentations with the Downtown Committee (December 5, 2023), BPAC (January 31, 2024), and Council Transportation Committee (June 23, 2024), staff will

continue to work with the Public Works Department to ensure the program provides the balance between pedestrian safety and economic development initiatives. Staff will return to the Council Transportation Committee to recommend the City Council to approve a Pilot Program early 2025. Staff would then go to City Council for Pilot Program adoption in spring 2025.

PUBLIC NOTICING—Agenda posting.

KH-JL/EA/1/PWK

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- Attachments:
1. [Council Report Dated February 27, 2018](#)
 2. [Council Report Dated May 5, 2020](#)