



CITY OF KIRKLAND

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MEMORANDUM

To: Transportation Commission

From: John Starbard, Deputy Director of Public Works
Scott Guter, Senior Planner, Department of Planning and Building

Date: May 21, 2022

Subject: PROPOSED REGULATIONS—AUTONOMOUS PERSONAL DELIVERY DEVICES

RECOMMENDATION:

It is recommended that the Commission review and discuss proposed regulatory concepts and language concerning the operation of autonomous personal delivery devices on the City's rights-of-way and provide recommendations.

BACKGROUND:

This subject was first discussed with the Transportation Commission at its April 27, 2022 meeting.

In 2019, the Washington State Legislature established regulations and minimum operating parameters to allow autonomous personal delivery devices (APDDs) to operate in the State, provided such operations also were in conformance with any local regulations of the jurisdiction in which they would be operating. There is a variety of APDDs that have been manufactured by entities and used by delivery companies. They range in design, size, capability, payload, and other factors. They are in use in the United States in several cities and on some university campuses, mostly in a test environment.

In late 2021, the City received four incomplete building permit applications to site, construct, and operate "dispensers" for APDDs. Dispensers are free-standing structures that essentially are the size of a one-car garage to store, recharge, and facilitate the loading and operation of APDDs. The intent was to test Amazon's "Scout" in four areas of Kirkland. Scout is the proprietary name Amazon has given both to the delivery program and the delivery device.



Figure 1. Scout Automated Personal Delivery Device



Figure 2. Scout Dispenser

The City did not have any local regulations concerning APDDs or dispensers, it was unfamiliar with how such technology operated, did not know what public benefits or detriments may be related to them, and had questions about their safety. In order to give the City time to understand and evaluate the issues related to APDDs, and to gain public review and input, the City Council on January 18, 2022, established an emergency six-month moratorium prohibiting the acceptance, processing, and/or issuance of permits related to APDDs and their dispensers.

Following the establishment of the moratorium, staff met with Amazon representatives; went to a field visit where they were being tested in unincorporated Snohomish County; presented the topic to the Planning Commission, the Houghton Community Council, and the Transportation Commission ([see April 27 staff report to the Transportation Commission](#)); and held two virtual community conversations.

At the City Council's May 3 meeting, staff presented the information it had gathered to date and suggested three options: 1) disallowing them in the City, 2) allowing them only on private or institutional properties, or 3) allowing them with limitations on the public rights-of-way and public property ([see staff report to the City Council](#)). City Council asked staff to further explore options 2 and 3.

If the decision were made to allow them only on private or institutional properties—meaning they would not be allowed even to cross a right-of-way—then such regulations would be enforced through the Zoning Code by the Department of Planning and Building. Thus, the Planning Commission has been asked to review and recommend proposed regulations for option 2 to permit APDDs on private and/or institutional (e.g., higher education) properties.

If the decision were made to allow them on the City's rights-of-way, then related regulations would be enforced primarily by the Department of Public Works. Thus, the Transportation Commission has been asked to review and recommend proposed regulations for the option to permit APDDs on public property, public streets, sidewalks, and rights-of-way.

The City Council also is interested in hearing from the public on this matter.

The following highlights what Council is thinking when regulating APDDs within the right-of-way and on public property:

- Support for a pilot or a temporary use permit
- Would not want technology to conflict with the policies of the City's Active Transportation Plan
- Require strong safety protocols within the right-of-way and on public property with respect to Americans with Disabilities Act (ADA) compliance and operating rules
- Technology should be predictable, and the public is educated about what that predictable behavior is
- Regulations should not be on "if" the technology works but rather focus on performance standards on how it works when it works
- Regulations should focus on how well it performs within the right-of-way and on public property:
 - How successful it navigates
 - How long it is idle
 - How quickly it can respond to various obstacles. If it is a human obstacle and when crossing a street, it needs to be "real time" interaction
- Where technology is appropriate it should be determined by sidewalk width. There needs to be enough room to navigate around conflicts that occur on sidewalks
- Concerned over visibility requirements because APDDs are not what humans are trained to look for.
- Some crossings such as Rapid Flashing Beacon (RFB) crossing may be appropriate if APDD can activate
- City should receive incident report requirements, especially in the case of a collision with a Scout.
- Appreciated what Transportation Commission mentioned about our bikeshare analysis as guide to what kind of data we need to collect about APDDs
- Particularly concerned with students' safe routes to school and human conflicts with APDDs
- Interests in measuring a real reduction in delivery vans with this technology

Previous Discussion with the Transportation Commission

When this topic was first presented to the Transportation Commission at its April 27 meeting, Commissioners voiced several questions, interests, and concerns, which are summarized below:

- Given our ADA obligations, and the fact that the City dedicates a lot of time and resources addressing them, how does Scout accommodate people in wheelchairs? Or those using strollers? A Commissioner had observed in another city that Scout's movements are cautious and slow. How might Scout impact the use of those ADA facilities? How do you have the device on a narrow sidewalk and still accommodate ADA?

- What is the anticipated reduction in the use of delivery vans, given that Amazon promotes the green nature of Scout?
- With regard to permitting, how could regulations be crafted that treat applicants consistently and ensure that permittees are operating in good faith? What are other communities doing?
- What are the theft and vandalism issues associated with APDDs?
- Could the devices be a hazard?
- How do these devices work in crosswalks at signalized intersections?
- A Commissioner opined that if these were allowed then it should be as a pilot program, the permit should be revokable, and the City should establish rules of operation.
- Do the devices run silently?
- Where would dispensers be located? ¹

DISCUSSION OF POTENTIAL REGULATIONS:

The Transportation Commission has been asked to review, evaluate, and offer recommended modifications to a regulatory framework for the operation of APDDs in Kirkland's rights-of-way. To create this draft regulatory framework, staff considered input that has been offered to date by the public, observations from the City Council, observations from the Transportation Commission, field observations, a review of regulations in other jurisdictions in the United States, and staff ideas. Staff also has identified adopted transportation goals and policies related to this topic.

Based upon the City Council's future direction, concepts such as the ones below will be crafted into more precise code language that could be codified in the *Kirkland Municipal Code*, the *Kirkland Zoning Code*, or other City documents and resources.

Policy Support and Considerations

The City has a number of transportation programs, policies, and plans including the Safer Routes to School Action Plans, Active Transportation Plan, and Vision Zero Action Plan that specifically relate to the use of sidewalks and crosswalks within the public right of way. Kirkland's primary transportation planning document is the *Transportation Master Plan (2015)*, which has a planning horizon of 2035 ("Plan"). As stated in the Plan's introduction, "With the expressed purpose of moving people, goods, and services, the City's transportation decisions will generally reflect a hierarchy of modes: 1) Walking, 2) Biking, 3) Transit, and 4) Motor vehicles." In part, this led to the eight goals that guide the Plan, which are:

- Goal T-0: Safety
- Goal T-1: Walking
- Goal T-2: Biking
- Goal T-3: Public Transportation
- Goal T-4: Motor Vehicles
- Goal T-5: Link to Land Use
- Goal T-6: Be Sustainable
- Goal T-7: Be an Active Partner
- Goal T-8: Transportation Measurement

¹ Regulations concerning dispensers is the purview of the Planning Commission.

For the topic of APDDs, two chapters appear most relevant: Be Sustainable and Be at Active Partner.

The Be Sustainable chapter of the Plan states, "Kirkland has a goal of reducing greenhouse gas emissions to 50% of their 2007 levels by 2030 (Plan, p. 73)." In the background section on the same page, it states, "Electric vehicles may be one way that technology can help meet this challenge." This chapter also has a sidebar entitled "FAQ on ADA," which begins, "The Americans with Disabilities Act requires accessibility to civic life by people with disabilities. One part of this is making sure that the transportation system is accessible to everyone (Plan, page 86)."

Policies and Actions in the Be Sustainable chapter of the Plan that relate to this topic include:

Policy T-6.3: Support modes that are energy efficient and that improve system performance.

Action T-6.3.1: Work with regional groups such as the Puget Sound Regional Council and King County Climate Change Collaborative to identify trends in vehicle innovation and seek opportunities to implement them in Kirkland. (See Partnership Policy T-7.4).

Policy T-6.4: Minimize environmental impacts of transportation facilities, especially the contribution of transportation to air and water pollution. Comply with Federal and State air and water quality requirements. Reduce vehicle miles of travel.

Action T-6.4.1: Coordinate transportation improvements and programs with goals from the Environmental Chapter of the Comprehensive Plan to meet the City's greenhouse gas emission targets.

Action T-6.4.2.: Report on reductions in vehicle miles or travel. (See Policy T-8.4).

Policy T-6.6. Create an equitable system that provides mobility for all users.

The "Be an Active Partner" chapter (Goal T-7) states in the Background section, "Kirkland must be proactive in its work with regional partners with a strong sense of our needs rather than reacting to what is offered by others." Further, the Background section states, "Partnering with the private sector, schools, advocacy groups and neighboring cities and sub-regional coalitions will inform and build support to achieve Kirkland's transportation goals (Plan, page 89)."

Policy T-7.7: Partner with the private sector and other "new" partners.

Items for Consideration for Potential Regulations

Because the City Council has not yet decided which option it would like to pursue regarding APDDs, staff has not developed specific regulatory language. To be prepared for crafting regulations based upon the option chosen, staff has identified issues that could be addressed in regulations where it decided to permit APDDs on the City's public property and rights-of-way. Staff seeks the Commission's discussion of these items, and welcome additional considerations that may be identified during the discussion.

I. Limited Initial Authorization—Time and Location

APDDs are a newer and evolving technology. Staff has reported previously on the current operation of Scouts based upon a site visit. While the Kirkland community may have seen or used Scouts (or other APDDs) in other cities or counties, because they are not permitted in Kirkland now it is likely that very few people in Kirkland have had day-to-day experiences with them. Establishing a limited initial authorization would give the community an opportunity to develop opinions about their operation based upon real experiences, and could better inform the City about ways to regulate APDDs.

When the City began its discussion with Amazon about Scout, Amazon stated that it intended to operate only in four test areas, not citywide. The areas were primarily single-family residential because Amazon stated at that time that it was not delivering to multifamily or business developments. The dispensers were not proposed for single-family sites but rather neighboring businesses or church parking lots.

For discussion/consideration:

- Limit the initial, permitted operation of APDDs to six months, with the ability to extend for an additional three months based upon the discretion of the Director of Public Works. Review performance during that period with the City Council to determine next steps.
- Establish hours of operation.
- Establish up to four areas in the City where APDDs may operate.
- Establish maximum number of delivery round trips permissible per day.
- Maximum number of APDDs permitted in the area of operation.
- Maximum number of entities that may operate APDDs in the City.
- Have the permit revokable for non-compliance or safety incidents.

II. ADA Considerations

As noted above, not only are there federal requirements that people with disability have "accessibility to civic life," but the City itself has policies and regulations to address those requirements. It also seems reasonable that such access should not come at the cost of prolonged inconvenience or reduced safety.

During the field visit, staff observed that Scout came to a halt for several minutes when encountering an object in its path, and also that it moved so cautiously down an ADA ramp with curbs on either side of the ramp that it took more than a minute to get down the ramp to the street but that, given the width of the ramp and the dimensions of the Scout, the ramp would not have been usable by a disabled person during that maneuver.

When an APDD stops or moves very slowly on a sidewalk or ramp, it becomes an impediment to a person in a wheelchair or with mobility challenges. On the other hand, an Amazon representative stated that people who are blind or have vision challenges prefer the APDD to stop to that it is a predictable, non-moving obstacle to maneuver around. The representative stated further that Amazon is working with ADA-related entities to make the best refinements to Scout.

For discussion/consideration:

- Set a minimum sidewalk width where APDDs are allowed to operate.
- Establish a maximum number of seconds that a Scout must leave or move to the side of any right-of-way facility to allow sufficient space for a person in a wheelchair to pass.
- Alternately, wait until the ADA industry or its advocates have determined how best APDDs can operate with the ADA community and the technology has been adjusted to respond to that determination.

III. School Zones and Greenways

Over many years, the City has developed policies, implemented programs and partnerships, and invested resources to make it easier and safer to walk, bike, and roll throughout Kirkland. A slower moving vehicle operating on the City's non-motorized network seems in some ways to be counter to those policies, programs and partnerships, and investments.

Two programs the City has made significant commitments to are Safer Routes to Schools and Greenways. Those programs are designed to promote walking, biking, and rolling, and make those mode alternative safer and more appealing.

For discussion/consideration:

- Prohibit APDD operation on school walk routes designated by the Lake Washington School District.
- Prohibit APDD operation on designated Greeways either in existence or in active development.

IV. Climate Change

As noted above, the City acknowledges that electric vehicles may be one way for the City to achieve its greenhouse gas reduction goal. Scouts and other APDDs are electric vehicles, and they are promoted as being a green alternative. Yet it also is true that Amazon customers are or would be given the option whether to have a package delivered by Scout or by a person in a delivery van. Householders who usually are home or could be at set times may prefer Scout deliveries. But householders who have complex schedules may not be available to meet a Scout and remove a package, so such customers likely would prefer a person to deliver the package to their home. Theoretically, these two types of customers could be next door neighbors.

An Amazon representative stated that the company is moving to an electric fleet for its delivery vans driven by people. City staff does not know when that will occur, nor what percentage of their delivery vans are electric already.

For discussion/consideration:

- Prior to allowing a company to operate APDDs in Kirkland, require the company to identify the number of van deliveries and vehicle miles driven in the City over the past year.

- Require the company to report within an established time period the number of APDD deliveries and miles traveled by them and the number of van deliveries and the vehicle miles driven by them.
- Establish milestone targets for the reduction of van deliveries.
- Establish milestone targets for the percentage of electric vans that deliver in Kirkland.

V. Use of the Public's Sidewalks for Private Commerce

Companies already are using public infrastructure to make private deliveries for a profit. The difference with APDDs is that most often they are using sidewalks, which are provided for safer non-motorized uses, rather than streets, which are designed and intended primarily for vehicles.

The State charges a licensing fee per APDD, but that revenue is not shared with local governments. Other entities that use the City's infrastructure, such as cable TV/internet companies, pay fees to use that infrastructure.

The companies that operate APDDs are gaining a benefit for using the public's infrastructure, but some have questioned what the benefit is to the public for doing so.

For discussion/consideration:

- Should the City charge some monetary fee or seek some other benefit for this kind of use of the rights-of-way?

VI. Performance Standards

As an alternative or companion to traditional regulatory code language and format, the City could consider establishing a series of performance standards that the operators would need to meet else their permit would be revoked. To a degree, certain performance standards have been suggested in the categories above.

- For operation in the rights-of-way, does the Commission favor a traditional regulatory approach, alternately allowing APDDs to operate provide established performance standards are met, or a combination of the two?