



CITY OF KIRKLAND
Planning and Building Department
123 5th Avenue, Kirkland, WA 98033
425-587-3600

MEMORANDUM

To: Houghton Community Council, City Manager

From: Jeremy McMahan, Deputy Director of Planning and Building Department
Scott Guter, AICP, Senior Planner

Date: April 18, 2022

Subject: Autonomous Personal Delivery Devices, File No. CAM22-00195

RECOMMENDATION

Receive a briefing on Autonomous Personal Delivery Devices (APDDs) and their dispensers and provide input on potential regulations. Advise if the Houghton Community Council wishes to participate in a joint public hearing with the Planning Commission, tentatively scheduled for May 26, 2022.

BACKGROUND

APDDs are automated or remotely controlled wheeled machines designed to deliver products to customers. These machines are "intended to help businesses cut costs on deliveries, reduce delivery vehicle congestion, and cut greenhouse gas emissions from delivery vehicles" ([MRSC Insight, September 2, 2021](#)).

In 2019, the Washington State Legislature passed HB 1325, enacted as Chapter 46.75 RCW, allowing for the operation of APDDs in the State of Washington. The regulations identify the minimum operating parameters for APDDs, which included operations in accordance with all ordinances, resolutions, rules, and regulations established by the jurisdiction governing the rights-of-way within which the personal delivery device is operated (see regulations in Attachment 1).

In late 2021, the City received four incomplete building permit applications to construct and maintain four Amazon APDD dispensers.

City staff also discovered that an operator or operators had been testing APDDs in various locations in the City without any notice to the City and without any authorization or permission from the City.

On January 18, 2022, the City Council passed an emergency moratorium on the acceptance of applications and the issuance of building permits for APDD and their dispensers within the City of Kirkland. This moratorium allows the City time to study and address concerns over the technology such as:

- Identify basic facts about the technology
- Address concerns over safety and privacy
- Identify the public benefits
- Study other cities regulating this technology

On March 1, 2022, City Council held a public hearing on the moratorium and adopted a preliminary scope of work to evaluate the use of APDDs with Resolution 5521 (see Attachment 2). The Houghton Community Council approved the moratorium with the adoption of Resolution R-2022-3 on March 28, 2022.

ANALYSIS

Following Council's adoption of the moratorium, an interdepartmental team met with representatives from Amazon and some of its subcontractors to gain a better understanding of the technology, its deployment in other locations, Amazon's plans for Kirkland, and both current and potential operational issues. While staff is continuing to research APDDs, we are presenting preliminary information based on work to-date. As our research continues, we will share additional information in the coming weeks and months.

The information provided below covers topics that relate to both land use and transportation issues. The Houghton Community Council has advisory and approval authority over matters related to zoning regulations and land use within the Houghton area. All topics related to issues within the right-of-way are subject to City Council's governing authority. City staff is briefing the Transportation Commission on APDDs at their April 27th meeting. The Transportation Commission will advise City Council on APDD related transportation issues within the right-of-way.

'Scout' (APDD)

Amazon's proprietary name for both its APDDs and the program that facilitates them is called "Scout."

The Scout devices, as pictured to the right, measure about 30 inches long by 24 inches wide; weigh about 100 pounds excluding cargo; and can travel up to 15 miles per hour. However, based on Washington State law they may not exceed six miles per hour. They are powered by rechargeable batteries, and have wireless and other technologies for guidance, sensing of obstacles, and communication. By State law, they are required to have lights on the front and back if the APDD is to be used between sunset and sunrise.



The devices can transport a payload of up to 50 pounds, which could be one or more packages delivered to one or more locations per delivery round trip. In Washington, they may not transport hazardous materials or alcohol.

Packages are loaded into Scouts at local dispensers by a human acting on behalf of the delivery company. Once the Scout reaches its destination, the recipient must meet the APDD and remove the package. Scouts cannot unload themselves.

APDDs must be licensed by the State according to its requirements.

Dispensers

Amazon Scouts are loaded in, stored in, and travel to and from dispensers. Dispensers are about 18-feet long by 8-1/2-feet wide by 11 feet tall. They are about the length and width of a parking stall. They have concealed or shaded exterior lights above roll-up doors on the end(s) and side(s). They require communication and electrical (single-phase 120/240, such as is used for most homes) connections, but not domestic water or sanitary sewer. They house up to twenty Scouts.



Operationally, a person working on behalf of Amazon drives up to a dispenser in a delivery van (e.g., a Mercedes-Benz Sprinter), opens a side roll-up door on the dispenser, manually loads the Scouts from the van, then closes the dispenser and leaves. Van drivers need about 20-30 minutes to unload their vans and load the Scouts, and typically require an empty parking space adjacent to the dispenser. Currently, in other test locations, this occurs once per day, though van deliveries may scale up based on the number of deliveries per day.

Delivery

Scouts travel from their dispenser to their programmed destination(s) then return to their dispenser.

Traveling on sidewalks and crosswalks, Scouts deliver packages within a maximum 1.25 miles from their dispensers, though the APDD can have a maximum round trip of five to seven miles. Representatives from Amazon said deliveries are only within a small radius from the dispensers, and that there would not be circumstances of a Scout “traveling across the city” to make a delivery.

If a person is not present at the delivery location to unload the Scout, it returns to the dispenser.

Ambassadors

State law requires an APDD entity to have a “personal delivery device operator” who can control or monitor the navigation of an APDD per RCW 46.75.020(3). Amazon calls such an employee an “Ambassador.” City staff understands that during test periods, Ambassadors are in the field and may accompany a Scout. However, as Scouts proliferate that will not be practical or economical. Staff has more to learn about the future roles of Ambassadors, but at this point staff understands they will be the employees who respond to issues or conflicts with Scout devices in the field that need human attention. It is possible some of that work may be conducted remotely, but again the City needs to learn more about this aspect of the program.

Limitations

According to the Amazon representatives with whom staff met, Scouts do not operate in snow or threat of snow, at times over a certain limit of rainfall, or on steep hills. The representatives said they would not operate on most roads that do not have adjacent

sidewalks (e.g., Goat Hill, where they are few to no sidewalks). However, State law allows them to operate on certain areas without sidewalks, such as shoulders where pedestrians may travel.

Representatives also stated Scouts do not operate on narrow or crowded sidewalks, and they would not be testing in the Kirkland downtown core.

Noting that the APDDs need a person to unload them, and that some multifamily buildings are staffed and others are not, representatives stated the Scouts would not deliver to multifamily homes but only single-family homes.

Dispersion

Though staff asked what Amazon foresaw as the proliferation of dispensers, representatives stated they were “uncertain.” Below are links to other companies that have developed APDD technology. Any new regulations should consider the potential market dispersion introduced by this new technology.

- [FedEx](#)
- [Starship Technologies](#)
- [Coco](#)
- [Nuro](#)
- [Udely](#)
- [Kiwibot](#)
- [Postmates Serve](#)
- [Robby Technologies](#)

Safety

This new technology raises several safety questions, especially since the primary travel routes for Scouts is on public sidewalks. Staff needs to study the safety implications to vehicular traffic, pedestrians (including those with mobility challenges or ADA needs), bicyclists, emergency response, and potential conflicts with other users.

Other Locations

When asked by staff, the Amazon representatives stated that Scout has been implemented locally in Bothell, Everett, Lynnwood, Mukilteo, and Snohomish County. Elsewhere, it has been implemented in Irvine, California; Nashville, Tennessee; some cities in Georgia, including Atlanta. City staff is aware it is being used for prepared food delivery on the Oregon State University campus in Corvallis. Below is a summary of what staff has collected from other cities that are regulating APDDs and their dispensers.

Everett: Allows for APDD operation and treats dispensers as “accessory outside storage”. Regulations are a stop gap measure, the City hopes to create a better ordinance in the future, specifically for neighborhood distribution.

Lynnwood: Has minimal regulations due to staffing constraints; service area only allowed in Industrial and Commercial zones, not Residential.

Mukilteo: Has permitted one dispenser; no regulations; did not know the dispensers would be deploying ADPPs.

Auburn: Recently adopted a detailed code that allows for the APDDs to operate on sidewalks or road shoulders with at least 5 feet in width. They must provide written

notification annually to all property owners and residents in the area which the personal delivery device intends to operate and they must notify the City Engineer with detail on their operation schedule and map at least annually. The devices can't be within 50 feet of each other while in operation on the same sidewalk or same side of the road.

San Francisco: Adopted code that authorizes and regulates APDDs on sidewalks for the purpose of testing for research and development. The permits are temporary (valid for 180 days) and must go through a public noticing and commenting period as well as a public hearing. The permittee is required to disclose data regarding the device testing to the City on a monthly basis. The devices are only permitted for sidewalks that are in zones for Production, Design, and Repair uses, aren't in a high-injury corridor, and areas that can accommodate both ADPPS and persons with disabilities or have an effective sidewalk width of six feet.

Potential for Other Providers

Amazon is but one package delivery service. There are other package delivery companies that may desire to deploy this or other technology in the City, not to mention the possibility of the United States Postal Service exploring such options or alternatives. Additionally, grocery stores and certain restaurants also provide deliveries and may seek alternatives and new technologies.

NEXT STEPS

City staff is working with Amazon in obtaining more information on APDDs and their dispensers and will be conducting public outreach to gain community input on this new technology. Subsequent to the completion of this memo Amazon will provide a demonstration to City staff of its Scout technology. Staff is also facilitating small group meetings to engage the community in deeper discussion around APDDs. Staff will provide the Houghton Community Council a briefing on the outcomes of demonstration and community input at their April 25th meeting.

More information on the project timeline can be viewed on the City's project [webpage](#).

ATTACHMENTS

1. Chapter 46.75 RCW – Personal Delivery Devices
2. Resolution 5521 – Preliminary Scope of Work

cc:

File Number CAM22-00195

John Starbard, Deputy Director, Public Works

Joel Pfundt, Transportation Manager, Public Works

John Burkhalter, Development Engineering Manager, Public Works

Chapter Listing

Chapter 46.75 RCW

PERSONAL DELIVERY DEVICES

Sections

- 46.75.010** Definitions.
- 46.75.020** Operation—Requirements.
- 46.75.030** Self-certification form.
- 46.75.040** Restrictions.
- 46.75.050** Violation—Traffic infraction—Notice.

RCW 46.75.010

Definitions.

The definitions in this section apply throughout this chapter unless the context clearly requires otherwise.

- (1) "Department" means the department of licensing.
- (2) "Eligible entity" means a corporation, partnership, association, firm, sole proprietorship, or other entity engaged in business.
- (3) "Hazardous material" means any material that has been designated as hazardous under 49 U.S.C. Sec. 5103, and is required to be placarded under subpart F of 49 C.F.R. Part 172.
- (4) "Personal delivery device" means an electrically powered device to which all of the following apply:
 - (a) The device is intended primarily to transport property on sidewalks and crosswalks;
 - (b) The device weighs less than one hundred twenty pounds, excluding any property being carried in the device;
 - (c) The device will operate at a maximum speed of six miles per hour; and
 - (d) The device is equipped with automated driving technology, including software and hardware, enabling the operation of the device, with the support and supervision of a remote personal delivery device operator.
- (5)(a) "Personal delivery device operator" means an employee or agent of an eligible entity who has the capability to control or monitor the navigation and operation of a personal delivery device.
- (b) "Personal delivery device operator" does not include:
 - (i) With respect to a delivery or other service rendered by a personal delivery device, the person who requests the delivery or service; or
 - (ii) A person who only arranges for and dispatches a personal delivery device for a delivery or other service.

[2019 c 214 § 1.]

NOTES:

Effective date—2019 c 214: "This act takes effect September 1, 2019." [2019 c 214 § 22.]

RCW 46.75.020

Operation—Requirements.

An eligible entity may operate a personal delivery device so long as all of the following requirements are met:

(1) The personal delivery device is operated in accordance with all ordinances, resolutions, rules and regulations established by the jurisdiction governing the rights-of-way within which the personal delivery device is operated;

(2) An eligible entity may operate a personal delivery device only upon:

(a) Crosswalks; and

(b)(i) Sidewalks; or

(ii) If a sidewalk is not provided or is not accessible, an area where a pedestrian is permitted to travel, subject to RCW 46.61.250, provided that the adjacent roadway has a speed limit of less than forty-five miles per hour;

(3) A personal delivery device operator is controlling or monitoring the navigation and operation of the personal delivery device;

(4) The eligible entity maintains an insurance policy that includes general liability coverage of not less than one hundred thousand dollars for damages arising from the operation of the personal delivery device by the eligible entity and any agent of the eligible entity;

(5) The eligible entity must report any incidents, resulting in personal injury or property damage that meets the accident reporting threshold for property damage under RCW 46.52.030(5), to the law enforcement agency of the local jurisdiction governing the right-of-way containing the sidewalk, crosswalk, or roadway where the incident occurred, within forty-eight hours of the incident;

(6) The eligible entity registers an agent located in Washington state for the purposes of addressing traffic infractions and incidents involving personal delivery devices operated by the eligible entity;

(7) The eligible entity submits a self-certification form to the department with the information required under RCW 46.75.030, both before operating a personal delivery device and on an annual basis thereafter;

(8) The personal delivery device is equipped with all of the following:

(a) A marker that clearly identifies the name and contact information of the eligible entity operating the personal delivery device, a unique identification number for the device, and the name and contact information including a mailing address of the agent required to be registered under subsection (6) of this section;

(b) A braking system that enables the personal delivery device to come to a controlled stop; and

(c) If the personal delivery device is being operated between sunset and sunrise, a light on both the front and rear of the personal delivery device that is visible on all sides of the personal delivery device in clear weather from a distance of at least five hundred feet to the front and rear of the personal delivery device when directly in front of low beams of headlights on a motor vehicle; and

(9) A delivery device may not be operated in Washington until it has been added to the list in the self-certification and the annual registration fee has been paid.

[2019 c 214 § 2.]

NOTES:

Effective date—2019 c 214: See note following RCW 46.75.010.

RCW 46.75.030

Self-certification form.

The department of licensing shall create a self-certification form for an eligible entity to submit prior to operating a personal delivery device and thereafter on an annual basis. Through the form, the department must obtain:

- (1) The name and address of the eligible entity and its registered agent within Washington, including the registered agent's name, address, and driver's license number, and any other information the department may require;
- (2) The name of the jurisdiction in which the personal delivery device will be operated;
- (3) An acknowledgment by the eligible entity that: (a) Each personal delivery device will display a unique identification number and other information specified in RCW 46.75.020(8); and (b) the registered agent is responsible for any infraction committed by its personal delivery device;
- (4) An affirmation by the eligible entity that it possesses insurance as required in RCW 46.75.020;
- (5) A list of any incidents, as described in RCW 46.75.020(5), and any traffic infractions, as described in RCW 46.75.050, involving any personal delivery device operated by the eligible entity in Washington state in the previous year; and
- (6) A list of each device identified by a unique identification number that the eligible entity intends to operate in the state during the year and payment of a fee of fifty dollars per personal delivery device listed. The fee must be deposited into the motor vehicle fund. The list must be updated and the fee paid prior to the eligible entity operating a device not listed in the annual self-certification.

[2019 c 214 § 3.]

NOTES:

Effective date—2019 c 214: See note following RCW 46.75.010.

RCW 46.75.040

Restrictions.

- (1) A personal delivery device may not be operated to transport hazardous material, in a quantity and form that may pose an unreasonable risk to health, safety, or property when transported in commerce.
- (2) A personal delivery device may not be operated to transport beer, wine, spirits, or other consumable alcohol.

[2019 c 214 § 4.]

NOTES:

Effective date—2019 c 214: See note following RCW 46.75.010.

RCW 46.75.050

Violation—Traffic infraction—Notice.

(1) A violation of this chapter, or of chapter **46.61** RCW by a personal delivery device, is a traffic infraction. A notice of infraction must be mailed to the registered agent listed on the personal delivery device within fourteen days of the violation.

(2) The registered agent of the eligible entity operating a personal delivery device is responsible for an infraction under RCW **46.63.030**(1).

(3) Infractions committed by a personal delivery device are not part of the registered agent's driving record under RCW **46.52.101** and **46.52.120**. Additionally, infractions issued under this section shall be processed in the same manner as parking infractions, including for the purposes of RCW **3.50.100**, **35.20.220**, **46.16A.120**, and **46.20.270**(2). The amount of the fine issued for an infraction issued under this section shall not exceed the amount of a fine issued for other parking infractions within the jurisdiction.

[**2019 c 214 § 5.**]

NOTES:

Effective date—2019 c 214: See note following RCW **46.75.010**.

RESOLUTION R-5521

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF KIRKLAND, WASHINGTON, ADOPTING FINDINGS OF FACT TO SUPPORT THE MORATORIUM ORDINANCE ON AUTONOMOUS PERSONAL DELIVERY DEVICES IN KIRKLAND AND A PRELIMINARY SCOPE OF WORK TO EVALUATE THE USE OF AUTOMONOUS PERSONAL DELIVERY DEVICES IN KIRKLAND.

1 WHEREAS, the City of Kirkland ("City") is an Optional Municipal
2 Code City organized under Title 35A of the *Revised Code of Washington*
3 ("RCW"); and
4

5 WHEREAS, Washington State law empowers cities to regulate
6 and protect public ways and real property of all kinds, such powers being
7 illustrated but not exclusively contained within RCW 35A.11.020; and
8

9 WHEREAS, the Washington State Legislature passed HB 1325 in
10 April 2019, which caused a new chapter RCW 46.75 to be codified,
11 entitled, "Personal Delivery Devices," and
12

13 WHEREAS, RCW 46.75 says in part that an eligible entity may
14 operate a personal delivery device in the State provided that it is
15 operated in accordance with all ordinances, resolutions, rules and
16 regulations established by the jurisdiction governing the rights-of-way
17 within which the personal delivery device is operated; and
18

19 WHEREAS, in late 2021, the City received four building permit
20 applications for the placement of four pre-fabricated "dispensers" to
21 facilitate the deployment and operation of autonomous personal
22 delivery devices within defined locations of the City (the "Applications");
23 and
24

25 WHEREAS, autonomous personal delivery devices are a
26 relatively new technology that has not been permitted in the City
27 previously, and
28

29 WHEREAS, the City at this time does not have any ordinances,
30 resolutions, rules, or regulations concerning the use and storage of
31 autonomous personal delivery devices; and
32

33 WHEREAS, the Applications raised questions for City staff such
34 as, but not limited to, how to categorize and regulate such uses,
35 implications for public safety, questions about such a use on the public
36 rights-of-way, and uncertainties about community acceptance; and
37

38 WHEREAS, on February 1, 2022, the City Council unanimously
39 enacted emergency ordinance O-4779 that imposed a moratorium
40 within all zones of the City on the acceptance of applications for the

41 review and/or issuance of building permits for autonomous personal
42 delivery device dispensers and on the acceptance of applications for the
43 review and/or issuance of right-of-way use permits for autonomous
44 personal delivery devices; and declaring an emergency; and
45

46 WHEREAS, on February 15, 2022, in order to increase
47 community awareness of the public hearing and the potential
48 moratorium, the City Council essentially ratified the emergency
49 ordinance by unanimously passing the moratorium again in an open
50 public meeting by enacting O-4782; and
51

52 WHEREAS, moratoria are regulated by the State through RCW
53 35A.63.220 and RCW 36.70A.390, which require the City to hold a public
54 hearing within 60 days of the establishment of an emergency
55 moratorium, and to enter findings of fact following the public hearing;
56 and
57

58 WHEREAS, a public hearing before the City Council concerning
59 the moratorium adopted by emergency ordinance O-4779 occurred on
60 Tuesday, March 1, 2022; and
61

62 WHEREAS, findings of fact in support of the moratorium adopted
63 by emergency ordinance O-4779 are adopted by this Resolution, as set
64 forth herein; and
65

66 WHEREAS, to assist City staff in drafting regulations concerning
67 the use of autonomous personal delivery devices in the City, a
68 preliminary scope of work was created and is attached hereto as
69 Attachment A; and
70

71 WHEREAS, within the City, moratoria are regulated further by
72 *Kirkland Zoning Code* 135.30.2, which requires approval of the
73 Houghton Community Council.
74

75 NOW, THEREFORE, be it resolved by the City Council of the City
76 of Kirkland as follows:
77

78 Section 1. By this Resolution the City Council adopts the
79 following findings of fact to support the establishment of the moratorium
80 described in emergency Ordinance O-4779 and Ordinance O-4782:
81

- 82 a. Washington State law permits the operation of autonomous
83 personal delivery devices on and in sidewalks, crosswalks,
84 and, if otherwise unavailable, areas where a pedestrian is
85 permitted to travel, provided that the use and operation
86 complies with applicable laws and regulations of the
87 jurisdiction in which the autonomous personal delivery
88 devices are operating.

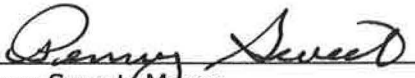
- 89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
- b. The City has not yet enacted any ordinances, resolutions, rules, or regulations concerning the use of autonomous personal delivery devices within its rights-of-way.
 - c. Autonomous personal delivery devices are a new technology, and currently are being tested or are in use in a small number of locations in the United States. They are being researched and developed for the package delivery industry as an alternative for "last mile" delivery.
 - d. The City received four incomplete building permit applications for "dispensers" to facilitate the use of autonomous personal delivery devices in the City. The City does not yet have any adopted rules or regulations concerning dispensers for autonomous personal delivery devices.
 - e. The City requires time to learn about this new technology, to review and analyze it, to determine any public safety concerns related to it, to look at how it has been regulated in other locations, to identify and address local concerns and interests about the use of the technology, and to draft proposed regulations that must be reviewed and refined by advisory bodies and the City Council.
 - f. Some, but not all, of the safety issues related to permitting autonomous personal delivery devices are as follows:
 - 1. Will they be compliant with the Americans with Disabilities Act?
 - 2. What hours can they operate?
 - 3. Where can they operate safely? Can they be approved in all zones, or only some zones? Should they be barred from certain areas, such as school zones?
 - g. Some, but not all, of the safety issues related to permitting dispensers for these devices are as follows:
 - 1. Where can they be located?
 - 2. What environmental impacts are associated with them?
 - 3. How are they operated, and how prolific may they become?
 - 4. To what extent are the compatible with surrounding land uses?
 - h. The City cannot safely permit autonomous personal delivery devices, or dispensers for those devices, in the City until these reviews and analyses have been completed and ordinances, resolutions, rules, and/or regulations concerning the use of autonomous personal delivery devices in the City

139 of Kirkland, and dispensers for those devices, have been
140 adopted and are in full force and effect in the City.

141 Section 2. A preliminary scope of work to evaluate the use of
142 autonomous personal delivery devices in Kirkland is attached to this
143 Resolution as Exhibit A and is intended to be used by the City as an
144 outline or plan to study these matters. This scope may be amended by
145 City staff without further Council action in response to questions or
146 issues that arise as a result of conducting the evaluation.

147
148 Passed by a majority vote of the Kirkland City Council in open
149 meeting this 1 day of March, 2022.

150
151 Signed in authentication thereof this 1 day of March, 2022.


Penny Sweet, Mayor


Kathi Anderson, City Clerk

Exhibit A to Resolution R-5521
March 1, 2022

**Preliminary Scope of Work to Evaluate the Use of
Autonomous Personal Delivery Devices in Kirkland**

This preliminary scope of work may be amended based upon testimony at a public hearing, City Council direction, and additional questions or issues raised as a result of research.

Category I: Basic Facts About This Emerging Technology

- A. What is the purpose of this new technology and how does it operate?
- B. Dispenser data and operation
 - 1. Standard dimensions and capacity
 - 2. Utility requirements
 - 3. Environmental impacts (e.g., noise, light, glare, and aesthetics)
 - 4. Siting criteria and preferred types of locations for dispensers
 - 5. Amount of clear area required around dispenser for loading
 - 6. Near-term and projected frequencies of loading deliveries and times of day/days of week
 - 7. Loading delivery details: type of vehicle, average loading time, vehicle parking/waiting needs
 - 8. Service area geography of dispensers
 - 9. Signage requirements
 - 10. Regulatory context
- C. Scout delivery device data and operation
 - 1. Standard dimensions and capacity
 - 2. Recharging requirements
 - 3. Speed and speed controls
 - 4. Maneuverability/adaptability to hills and hazards
 - 5. Autonomous mode versus with operator intervention
 - 6. Protocols if device loses charge, such as in the middle of an intersection or sidewalk
 - 7. Interactions with pets or wildlife
 - 8. Reaction to closed sidewalks, sidewalks under construction, downed limbs, etc.
 - 9. Time of day for operation
 - 10. Ability to operate in various weather conditions
 - 11. Does the device itself contain any hazardous materials (e.g., type of batteries)?
 - 12. Do the devices have cameras? If so, would the City have access to the video in the event of a crash or incident?
 - 13. Can the devices travel through side yards or over dirt trails?

14. Do the devices make noise?
15. How does the package actually get delivered from the sidewalk to the recipient's door?
16. Insurance requirements

Category II: Safety

- A. Traffic safety and records of reported accidents
- B. Pedestrian safety
 1. Interactions with pedestrians, pedestrians with strollers or carts, those with ADA/mobility challenges, and bikes and other wheeled devices
 2. Have any pedestrians been injured thus far in other markets?
 3. Adequacy of infrastructure to meet both APDD and ADA needs
 4. Bicycle safety and history of conflicts
 5. Emergency response impacts/implications
 6. Conflicts with other public users
 7. Are there pedestrian interface issues that Amazon is working on now to address/fix?

Category III: Proliferation and Saturation

- A. Quantity of dispensers and devices; potential "logjam"
- B. What's on the horizon for the technology?
- C. Other businesses with their own version of Scout

Category IV: Public Benefits

- A. What is the best case to be made for permitting this technology in Kirkland; what are the public benefits?
- B. Is the operation of this technology on public sidewalks beneficial?
- C. Vandalism, destruction, or theft
 1. Are the devices an attractive nuisance?
 2. Would the City be expected to investigate incidents?
- D. Are there other "last mile" delivery methods that would be more effective or safer?

Category V: Peer City Comparisons

- A. How have other cities addressed APDDs?
- B. What challenges have other cities experienced where they have been permitted?
- C. What are the fundamental commonalities and differences of adopted regulations in other cities?