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November 21, 2019

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DEPT. OF PLANNING
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CITY & COUNTY OF HONOLULU

MEMORANDUM

TO: Arthur D. Challacombe, Chair
and Members of the Planning Commission

FROM: Kathy K. Sokugawa, Acting Director *Kathy Sokugawa*
Department of Planning and Permitting

SUBJECT: Proposed Amendment to Chapter 21, Revised Ordinances of Honolulu (ROH) 1990, as Amended (The Land Use Ordinance [LUO]), Relating to Off-street Parking and Loading

The Department of Planning and Permitting (DPP) is pleased to submit for your review and recommendation this DPP-initiated Bill, which would amend certain sections of the LUO in order to update the parking and loading regulations to better implement the plans and policies of the City and County of Honolulu.

The current LUO regulations related to parking and loading were largely adopted over 30 years ago. Since then, the General Plan, Development Plans, and Sustainable Community Plans have all been updated to reflect a more current vision for our community. Additionally, the Council has adopted a number of policies and regulations intended to curb traffic deaths, reduce traffic, and lessen our impact on the environment, both locally and globally. The proposed amendments to the LUO align with these visions and direction, and implement legislation to realize the key goal of reducing vehicle miles traveled.

Enclosed you will find additional information and staff analysis. We would be happy to answer any questions that you may have as part of your deliberations. Should you have any questions, please contact Alex Beatty, of our staff, at 768-8032.

Enclosures

**DPP-INITIATED LUO AMENDMENT
RELATING TO OFF-STREET PARKING AND LOADING REQUIREMENTS**

**Staff Report
November 20, 2019**

The proposed bill repeals the existing Revised Ordinances of Honolulu (ROH) Chapter 21 Land Use Ordinance (LUO) Article 6 Off-street Parking and Loading and replaces it with a version that introduces new text and significantly reorganizes existing text. The purpose of the bill is to update the parking code to better implement the plans and policies of the City and County of Honolulu. The intent is to have the regulations that affect the quantity and quality of parking and loading spaces, sizes, and locations all in one place. Consequently, the proposed Bill also introduces changes in Articles 2, 3, 4, 5, 9, and 10 to eliminate duplication and language that conflicts with the edits in Article 6. The proposed changes are expected to address future parking needs; promote better design; encourage the use of alternative transportation means such as bicycle, mass transit, car sharing, ride hailing, and walking; implement the goals of vision zero related to mode shifts; increase future rail ridership; and, allow for the development of a diversified and sustainable transportation network that is less reliant on single-occupancy vehicles.

I. BACKGROUND

The City Council approved funding in the 2019 fiscal year for the Department of Planning and Permitting (DPP) to initiate Phase I of the LUO update. During Phase I, input from over 100 individuals and professional land use planning organizations was gathered to determine how to proceed with an overall update to the aging document. Chiefly identified as a barrier to desirable development were the off-street parking regulations.

Near the end of Phase I, the U.S. Environmental Protection Agency approached the DPP with an opportunity to have our parking regulations reviewed with federally-funded technical assistance from the Governors Institute of Community Design and Smart Growth America. Five focus groups and multiple interviews were held with members of the business community, advocacy groups and community organizations, real estate agents and planning consultants, public transportation professionals, and city/state staff. A workshop, open to the public, was held at the Blaisdell Center in January 2019. This cooperative relationship with the Governors Institute concluded in June 2019. Three technical memos and a summary of stakeholder engagement (see attached), a draft model ordinance, and a draft staff report were produced.

After June, the DPP continued to engage the local development community, and benefited from additional research from the Department of Transportation Services, Ulupono Initiative and their consultants (students from the University of Hawaii and Columbia University, and a consultant named Two-Twelve). The draft ordinance and staff report were revised to reflect this additional outreach and research, and better respond to Honolulu's specific needs and goals. The final draft report and bill were presented and discussed with the public on November 6, 2019.

The draft bill helps implement many of the Council's adopted policies and goals, including those in the following Plans:

- Oahu General Plan (GP): Recommends creating incentives to use alternative travel modes; supports mixed-use development and higher density redevelopment in areas surrounding transit; and encourages reduces housing costs. The changes proposed in this bill closely track with the current and proposed updates to the GP, which are with the City Council now.
- Primary Urban Center Development Plan: Recommends freeing older, non-conforming buildings from parking requirements because the older buildings cannot meet the minimum standards; supports incentivizing redevelopment; recommends developing regulations that lower housing costs; and encourages the use of transit.
- Ewa Development Plan: Supports creating the secondary urban center, thereby reducing pressure to extend the Urban Growth Boundary; and envisions communities that are designed for non-automotive travel.
- Sustainable Communities Plans: Broadly supports reducing the visual impact of parking and parking structures on communities with suburban or rural characters; addresses future vehicle parking needs; supports a more diversified transportation network to increase access without solely relying on single occupancy vehicles, thus addressing traffic concerns.
- Transit-oriented Development (TOD) Plans: Supports incentives for parking reductions near transit stations that will increase ridership as properties redevelop over time; encourages pedestrian-friendly streetscapes.

And many other related policies and goals of the City Council, including:

- Council initiatives and projects: achieve vision zero and establish a carbon neutral corridor (Resolution 18-221, CD1, FD1); promote car sharing (Ordinance 19-19); reduce off-street parking in 201H projects; eliminate parking requirements for affordable multi-family projects (Ordinance 19-8); address on-street parking conflicts in single-family Residential Districts (Ordinance 19-1); etc.
- The Oahu Bike Plan, Pedestrian Plan, and the Complete Streets program: create incentives for providing bicycle parking and safe multimodal use of streets.
- Oahu Resilience Strategy: increase housing affordability by reducing parking requirements; accelerate use of carbon-free mobility options by developing a more sustainable transportation network (Resolution 19-233).

The proposed changes also align with the State's mandate to go carbon neutral by 2045, and support many other policies of the state and federal government to improve multi-modal transportation networks, reduce vehicle miles traveled, and develop safer environments for pedestrians and alternative transportation users. By encouraging multi-modal access for pedestrians, bicycles, motorcycles, carshare, bikeshare, and electric vehicles, we are enabling a reduction of future car emissions. By reducing the reliance on single-occupancy vehicles, more efficient and safer alternative modes of transportation become more viable.

Most of the existing parking regulations date to the 1960s and no longer support our current plans and policies. In fact, the public and development community often see our current parking requirements as obstructing the types of development promoted in our plans. The Phase I outreach efforts associated with the recent LUO update identify this as a problem that needs immediate attention. The attached bill addresses the problem and takes steps to modernize our

parking standards by adopting current best practices and new regulations that support the goals in our plans and policies.

This staff report, with the attached draft bill, identifies the text changes proposed for Article 6 of the LUO, as well as related edits to Articles 2, 3, 4, 5, 9, and 10.

II. ANALYSIS

A. Purpose and Intent

In the proposed bill, we have added the purpose for the off-street parking and loading regulations; currently Article 6 only describes an intent. The purpose offers an explanation of what we are regulating and why. The intent describes what we are trying to achieve with the regulations. Both aspects function as the introduction to the Article. The new purpose and revised intent reflect the City's many policies and goals.

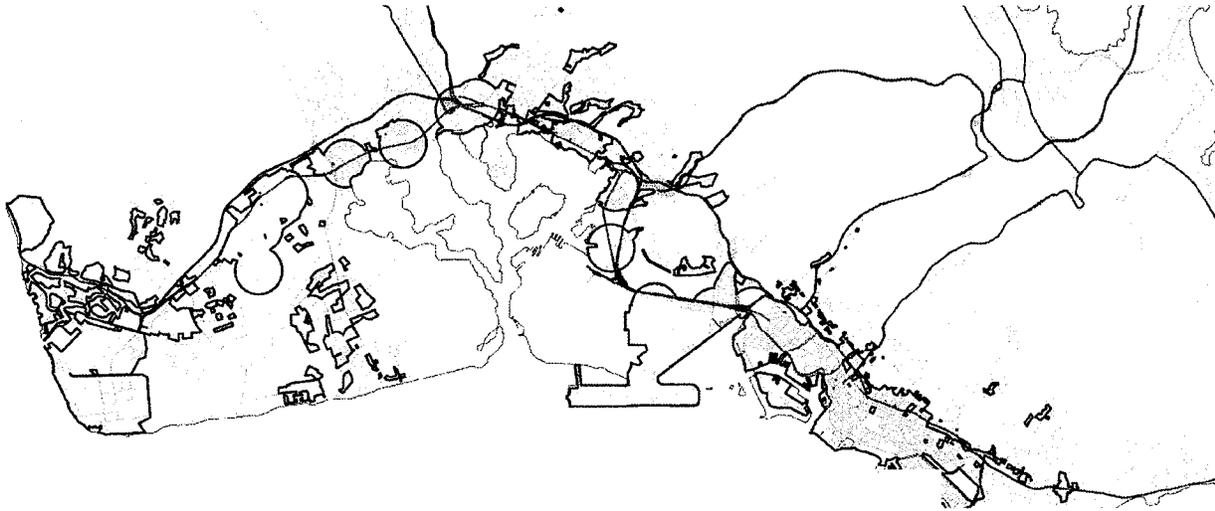
B. Land Use Categories

In the existing Article, the parking requirements are specified in a lengthy table that lists most land uses from the Master Use Table in Article 3 with a corresponding parking ratio as the minimum requirement. To simplify this section, we have:

1. Grouped the uses into broad categories by their similar parking demands and, to a lesser extent, by the nature of the use – for instance, three classes of commercial use versus numerous distinct commercial uses;
2. Eliminated or revised parking minimums, as explained in the next sections of this Report; and,
3. Added uses that had not been previously included; i.e., that were missing.

C. Eliminating Parking Minimums

The amendments propose to revise and simplify the minimum parking requirements by regrouping the uses into broader, and, in places where it is appropriate, eliminating minimum parking requirements entirely. Places where the minimum parking requirement will be eliminated are geographically described in the draft bill, and include areas that are either already developed in a manner that supports eliminating parking minimums (Primary Urban Center), or are zoned and planned to be communities that should not have parking minimums (Kapolei and parts of Ewa). Projects in single-family residential neighborhoods will still be required to provide off-street parking, unless they are in TOD neighborhoods. See the figure below for a map that illustrates areas where minimum parking requirements will be eliminated, in grey.



Eliminating parking minimums allows developers to determine the right amount of parking for each project so they can explore creative options for meeting their project's needs. Developers stated multiple times in workshops, focus groups, and interviews that their business model works best when they can customize projects based on market demand and local context (see attached summary of stakeholder engagement). Eliminating the parking minimum allows them to do this.

The idea of eliminating parking minimums is also a best practice utilized across the country and promoted by professional organizations such as the American Planning Association (American Planning Association, Zoning Practice, June 2017: Eliminating Parking Minimums) and Urban Land Institute (Urban Land Institute and National Parking Association, 2009, The Dimensions of Parking). A growing number of communities have opted to eliminate minimum parking requirements, and instead focus on parking design. Examples of cities that have eliminated minimums within the past five years include:

- Buffalo, NY eliminated minimum parking requirements citywide;
- Hartford, CT eliminated minimum parking requirements citywide;
- San Francisco, CA eliminated minimum parking requirements citywide;
- Minneapolis, MN eliminated parking requirements for residential buildings with 50 or fewer units near high-frequency transit (and reduced the requirement by 50 percent for larger buildings);
- Sacramento, CA eliminated parking within a quarter mile of their light rail stations and by 50 percent within a half mile of the stations; and,
- Nashville, TN eliminated minimum parking for their downtown.

The arguments to support this approach include:

- Building more parking than needed leads to higher construction costs, which is passed on to the residential occupants or commercial customers, whether they use a car or not. This increases the cost of living, especially the cost of housing. A structured parking space can cost up to \$50,000 per space to build in Honolulu, not including the cost of the land itself (Oahu Resilience Strategy, 2019). This is particularly inequitable to people who use other modes of transit.

- When the urban center frees up land and capital normally used for large parking lots or garages, there is more opportunity for redevelopment, which will increase the tax base, allow for more efficient land use, increase the availability of residential and commercial spaces, and make walking, bicycling, and transit use more viable.
- Investments in buses and rail have a better return if more people are using mass-transit.
- When more people use alternative modes of transportation for daily trips, fewer people are driving, air pollution goes down, and traffic eases. This frees up roadways for emergency vehicles, buses, bicycles, and deliveries of freight and personal items.

Political support for this concept is growing. The City Council has eliminated the parking minimums for non-residential uses in the TOD special districts and for affordable apartment projects. City Council also regularly reduces parking requirements for projects involving 201H regulations. Eliminating the parking requirements also supports the related policies and goals highlighted at the beginning of this report.

Serendipitously, nationally respected urban planner Jeff Speck spoke in Honolulu on September 9, 2019 about how to improve livability through walkability. The plenary was hosted at the Neil Blaisdell Center by the AARP, Department of Health, and Department of Transportation Services (DTS). Among his recommendations: eliminate parking minimums. Eliminating parking minimums will not eliminate existing or future parking; rather the removal of the requirement allows for deliberate decision-making by developers based on design and local context.

Speck also addressed the common concern that eliminating parking minimums will increase demand for on-street parking. He identified three factors to combat this view. Our research and the city's current efforts suggest his factors make sense.

1. Families who move into housing with fewer parking spaces do so with fewer vehicles, thus reducing on-street and off-street parking demand at their homes and the places they travel. Our research indicated that in many areas where parking minimums will be eliminated, car ownership rates are already below one car per household (see attached Technical Memorandums).
2. On-street parking availability in commercial and mixed-use areas can be controlled by adjusting the cost of parking on public streets, a mechanism the Department of Transportation Services is already implementing to increase turnover and availability at popular on-street parking locations.
3. On-street parking in residential neighborhoods near commercial districts can be reserved for residents through a street-parking permit, a program that the DTS is also already implementing in Kalihi (Ordinance 19-1).

D. Updating Parking Minimums

In areas where parking minimums will not be eliminated, they will stay the same or be modestly reduced. The new minimum ratios are supported by research conducted by American Planning Association, the Institute of Transportation Engineers, Urban Land Institute, and a review of nation-wide best practices. The results of this research were then adjusted to meet Honolulu's needs by reviewing commercial building permits and

observing actual parking usage of various developments. Based on a review of commercial projects around Oahu, many properties are providing parking near the existing minimum requirements, and not in excess. This finding suggests that in some circumstances the existing minimums are higher than the market demand, thus inflating the availability of parking and incentivizing driving to the point of inducing demand. To “right-size” parking, the proposed minimums either remain the same or are slightly lower than the previous requirements.

E. Maximum Parking Limits

When eliminating or reducing parking requirements, maximum parking limits are often simultaneously imposed to support the overall strategy. The reason for this is to avoid over-building parking, which would negate the steps being taken to implement many previously discussed goals. This is an effective strategy used by many cities including Portland, Oregon; Seattle, Washington; San Francisco, California; Cambridge, Massachusetts; San Antonio, Texas; and, Concord, North Carolina.

An analysis of commercial building permits across Oahu showed that two-thirds built less than 125 percent of the required parking, and very few built more than 150 percent of the requirement. Therefore, an island-wide parking maximum may not be necessary at this time.

While now may not be the time to implement parking maximums island wide, there are certain circumstances, such as in the special districts, for conditional use permits, existing use permits, cluster housing, and planned development permits, where maximums may be appropriate and necessary. The director already has the authority to adjust parking for such permits/areas, and the new text is more explicit. It specifies that the director may implement parking maximums through the appropriate permit process. By restricting the use of parking maximums to certain projects, implementation will be site specific and administered through an existing permit process.

F. One Parking Ratio for Residential and Hotel Uses

The proposed amendments recommend one parking ratio for both residential and hotel uses in areas where a parking minimum remains. This concept is already used in Maui County. The amendment will simplify calculations and reduce permit review times. It can avoid problems that sometimes happen when applicants change their unit designs between zoning approvals and submissions for building permits, such as for condo-hotel buildings. This might appear to have a great impact on our largest hotels; however, those hotels are located mainly within the areas where we are proposing eliminating minimum parking requirements. Hotels outside of the urban core likely have a higher ratio of tourists with cars, and options to reduce the parking requirement are available if sufficient traffic demand management strategies are presented, such as access to carshare. The single residential requirement also serves as a strategy for our rural and suburban single-use residential areas where the person to car ratio is higher, the size of homes is larger, and families tend to be larger. The new residential ratio is, on average, higher than what is currently required. It was developed, in part, to support the concerns raised during discussions associated with Ordinance 19-3 related to large detached dwellings, while recognizing that smaller homes with lower parking needs are also possible.

G. Car Sharing and Other Transportation Options

Car sharing is the term used for a new service that has appeared in Honolulu in recent years, and whose popularity is growing. There are at least two companies that provide this service on Oahu: Hui, affiliated with Servco, and Enterprise, the car rental company. The service offers customers the opportunity to rent vehicles on an hourly basis using a smart phone. This is ideal for people who live without a vehicle, but who occasionally need a car for a quick trip for appointments, shopping, or to visit friends and family further away. The private sector already sees a growing customer base of residents and visitors who do not need or wish to have their own cars. Hui is already renting spaces in garages that have unused parking spaces throughout the City, and the City Council has recently agreed to lease some on-street parking to such entities. DPP sees this as a positive trend, and the proposed regulations are intended to encourage its growth on private property.

In the TOD portion of Article 9, there is existing language that says, “car sharing is encouraged.” However, there is no specific guidance regarding car sharing. To consolidate parking requirements in Article 6 and provide more instructions and incentives for the use of this emerging strategy, a section has been added on the topic. Car sharing is not a requirement in the proposed changes to Article 6 but, if implemented, an applicant’s minimum parking requirement can be reduced by three spaces per dedicated car shared space.

Similar tradeoffs are provided for bicycle parking, motorcycle parking, and a bike sharing program, if provided to residents on-site. These revisions should incentivize applicants to provide space for alternative transportation.

H. Joint Use of Parking and Loading

Permits are currently required when the proposed parking or loading is jointly used, or shared, between multiple uses with different or overlapping peak hours of operation. Jointly used parking often justifies reducing the number of parking spaces. Decreasing the requirement for parking spaces that do not have overlapping peak times allows for more efficient use of land, increases the usable lot area, and decreases construction costs associated with parking. The proposed amendments remove the permit requirement and provide a simple method for calculating a modest parking reduction for mixed-use projects. Applicants wishing to implement joint use of parking on-site can simply indicate the proposed uses on their building permit and utilize the table provided in the LUO to calculate their total reduced parking requirement. The reductions range from 5 to 25 percent, depending on the uses proposed.

I. Off-site Parking and Loading

Off-site parking and loading will still require a conditional use permit, but the allowable distance between the use and automobile parking site has been extended to a quarter mile, or a five-minute walk, which is consistent with standards for walkable places (Honolulu Complete Streets Design Manual, 2018, and Neighborhood TOD Plans). Off-site parking encourages the reduction in the number of parking spaces on valuable properties by moving them to sites of lesser value. Off-site parking also encourages more efficient use of a developed or developing lot when sufficient parking nearby already exists, or if multiple tenants or the city wanted to create a “park-once” facility to service the parking needs of a community. The existing parking improvement districts are an example of this type of “park-once” facility. The expanded distance may encourage private developers to build this type of facility.

Off-site and joint use of loading is expressly allowed by right (on-site) or with an off-site parking and loading permit when the loading is scheduled so the use times do not overlap, and the deliveries do not require crossing any streets. This is a very practical solution for parts of Waikiki, where one project on a block could accommodate loading for neighboring uses, and thus take trucks off the street and ease traffic.

J. Electric Vehicles

Many stakeholders expressed the desire for Honolulu to embrace the use of electric vehicles. The proposed bill has a new section that requires parking facilities providing charging stations, in compliance with the new energy and electrical codes, to meet certain accessibility and design standards. Essentially, each charging space must be designed so the equipment does not interfere with pedestrian or bicycle access around the space.

K. Surface and Structured Parking Design

The LUO's landscaping section in Article 4 currently requires that parking lots be screened from streets, but the LUO does not comprehensively guide the design of parking structures, which are becoming more abundant. With the proposed bill, we recommend moving the parking lot and structure landscaping regulations to Article 6 and further specifying the design of parking lots and structures. The improved designs should contribute to the city's appearance and create safer pedestrian environments.

Some of the special districts address the issue of parking garages, for example, by requiring that they be adorned with flower baskets in Chinatown, and requiring active ground floor uses facing streets and parking to be set back from streets in the TOD Special District. These requirements are effective; however, they are in Article 9 and not in Article 6. The proposed bill promotes desirable urban design islandwide by requiring parking to be better screened with more landscaping or be screened entirely with active floor area fronting the streets.

The new section in Article 6 titled Surface Parking Site Planning:

- Prioritizes access to a parking lot first from the rear of a lot, then from the side, and then, as a last resort, from the front of the lot;
- Updates criteria for the size and location of planting areas to promote tree health and retain stormwater on-site;
- Requires all parking lots, except in residential, country, agricultural and industrial districts, to be setback 25 feet from the primary frontage; and,
- Moves the existing parking lot landscaping and screening requirements to Article 6 so all parking-related requirements are in the same place.

Additionally, we are proposing a new section called Structured Parking Site Planning. Borrowed from the existing TOD regulations, this section requires that parking structures be either set back 40 feet from the street or be lined, wrapped, or screened with active floor area on every floor that faces a street or public space. This new requirement will activate the facades of buildings facing the street, and create a more safe and pedestrian-friendly environment, or encourage large landscaped areas that can be redeveloped in the future between the structured parking and the street.

L. Bicycle Parking

The existing regulations for bicycle parking, adopted in 2017, remain in the proposed draft for Article 6. Bicycle parking requirements currently in Article 9 will be moved to Article 6. A new requirement for hotels has been added to ensure multi-modal access for employees and guests. The bicycle parking design requirements have also been adjusted to allow additional forms of bicycle racks (vertical or hanging, and stacked) that were previously not specified.

M. “Unbundling” Parking

The proposed amendments require that parking is “unbundled.” While the zoning code is currently silent about this option, there are several successful examples of this practice in Honolulu, including at 801 South Street. The concept of “unbundling” refers to the separation of the purchase price of a parking space from the price of the dwelling or commercial space. Unbundling gives people the opportunity to decide whether they need a parking space, instead of automatically being forced to purchase or rent one because it exists. Both overall construction costs and the cost of housing and commercial space could be reduced if parking spaces are unbundled.

If recent trends hold true and parking demands decrease over time, particularly in urban areas, property owners might have a large supply of unused parking stalls. Workshop participants expressed concerns over the undesired impact of large, empty parking structures in our urban areas. They explained that if the spaces are sold, for example, to an Association of Apartment Owners (AOAOs) and then leased to renters or owners as needed, repurposing the parking structure in the future will become possible. Converting parking areas into usable floor area is an option that the DPP will be ready to consider once the rail is closer to completion.

The proposed language for this section limits the ability to sell spaces to individual owners of condominiums and requires that, if spaces are sold, they are sold to either an association or management company.

N. Loading Stalls

Stakeholder outreach suggested that we keep the number of required loading stalls the same, but that we should reduce the number of larger 35-foot-long loading spaces. Interviews with local developers confirm larger delivery trucks’ arrival times are usually staggered. The smaller 19-foot-long loading spaces suffice for most of the deliveries on Oahu.

Compared to other cities, Honolulu’s loading requirements are higher for smaller buildings and require more of the larger loading spaces. This creates problems for:

- Buildings 5,000 to 10,000 square feet in size, which must build one space and it must be large; and,
- Retail-type buildings 20,000 to 40,000 square feet in size and assembly-type buildings 50,000 to 100,000 square feet, which must build two large spaces and one small one.

For comparison:

- Sacramento only requires the larger loading bays for structures starting at 10,000 square feet.

- Seattle requires larger bays for “high demand” uses, starting at 5,000 square feet. They require smaller spaces for “low- to medium-demand” uses, starting at 40,000 to 10,000 square feet, respectively.
 - “High demand” includes airports, warehouses, equipment sales, hospitals, recycling centers, etc.
 - “Medium demand” includes heavy commercial, mini-warehouses, retail, laboratories, utilities, bus depots, etc.
 - “Low demand” includes offices, entertainment, loading, institutions, etc.
- Washington DC requires loading bays, starting at 5,000 square feet for retail, service, restaurants, production, distribution, etc., then requires one additional “service/delivery space” for some uses.

For the proposed new Article 6, the chart of required loading stalls remains the same, but only becomes applicable when the lot is larger. This should promote the redevelopment of smaller lots and joint use of loading. To reduce the required number of “large” loading stalls, edits have been made to the dimensions of the required loading spaces. The primary change in the regulations is to reduce the number of larger loading spaces from 50 percent of the requirement, to one-third. Not only do the smaller loading spaces take up less space, but they also are much easier to design for maneuverability. This means that if there are three loading spaces, only one is required to be large instead of two, as called for under the current requirement.

The stakeholders, including the Waikiki Improvement Association, informed us that the joint use of loading between two or more property owners would help reduce the number of trucks unloading from the street. As discussed above, language has been added to clarify when and how off-site and joint use of loading is permitted. As a result of this change, the Zoning Adjustment for joint use of loading spaces becomes moot, and is removed from Article 2.

O. Passenger Ride Hailing Services and Deliveries

A new section in Article 6 anticipates the growth of passenger ride hailing services (like Uber and Lyft) and personal food or product deliveries (from entities like Aloha2Go, Grubhub, or Amazon). The biggest concern is that drivers are blocking travel lanes in streets as passengers enter or exit vehicles and drivers make deliveries. We propose new requirements for properties large enough to trigger the loading requirement thresholds to include dedicated off-street space for these activities to relieve some on-street pressure. We propose several options for providing such spaces, including designated driveway areas and short-term parking stalls. We believe these spaces will not only be heavily used now by drivers, but will become particularly useful as autonomous vehicles begin to influence our communities.

P. Associated Revisions to LUO Articles 2, 3, 4, 5, and 9

Many of the proposed revisions to Article 6 are already in the LUO, distributed throughout Articles 2, 3, 4, 5, 6 and 9. The goal is to consolidate the parking and loading regulations in one Article, i.e., Article 6. This will make the LUO easier to use. Additionally, many of the design standards are from, or were conceptually introduced, in the Interim Planned Development-Transit permit and TOD Special District. From experience, implementing these regulations and based on the Council’s policies, many of these good ideas should be applied island wide.

Additionally, the Office of Council Services has provided convention, style, and formatting guidance, which is incorporated as non-substantive amendments to Sections of the LUO that are being modified by this bill. For example, the command “shall” is often changed to “must” to match the subject of the command.

Q. New Definitions

With the creation of new techniques to regulate the configuration of parking lots and parking structures, a few new terms need be added to Article 10, Definitions. Those terms are proposed in the attached bill, and include:

- “Active Floor Area”
- “Bicycle Sharing”
- “Car Sharing”
- “Electric Ready”
- “Mechanical Parking System”

III. RECOMMENDATION

The DPP recommends:

- Replacing the existing LUO Article 6 with a new Article 6;
- Moving or editing certain sections related to parking and loading from their current locations in Articles 2, 3, 4, 5, and 9 to Article 6; and,
- Amending Article 10 to include new definitions associated with parking and loading.

The draft bill is attached.



A BILL FOR AN ORDINANCE

RELATING TO OFF-STREET PARKING AND LOADING.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION 1. Purpose. The purpose of this ordinance is to comprehensively update the off-street parking and loading requirements in Chapter 21 of the Revised Ordinances of Honolulu 1990 (the Land Use Ordinance).

SECTION 2. Chapter 21, Article 6, Revised Ordinances of Honolulu 1990 ("Off-street Parking and Loading"), as amended by Ordinance 17-55, Ordinance 19-03, and Ordinance 19-18, is repealed.

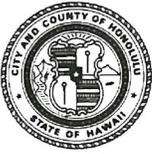
SECTION 3. Chapter 21, Revised Ordinances of Honolulu 1990 ("Land Use Ordinance"), is amended by adding a new Article 6 to read as follows:

"Article 6. Off-street Parking and Loading

Sec. 21-6.10 Off-street parking and loading – Purpose and intent.

- (a) The purpose of off-street parking and loading standards is to provide:
 - (1) Regulations and guidance regarding off-street parking and loading; and
 - (2) Regulations to assist with satisfying the goals of the Oahu general plan, development plans, sustainable community plans, transit-oriented development neighborhood plans, Oahu resilience strategy, and other adopted city plans and policies.

- (b) The intent of parking and loading standards is to:
 - (1) Ensure the provision of sufficient off-street parking and loading spaces in lots and structures that contribute to attractive, environmentally sound, and pedestrian-friendly streetscapes; and
 - (2) Provide mechanisms and incentives to encourage the development of a more sustainable and multi-modal transportation network, and encourage the use of transportation options to reduce congestion, improve pedestrian safety, and enhance the quality of the environment.



A BILL FOR AN ORDINANCE

- (c) Off-street parking and loading spaces must be provided as required by this article.
- (d) Unless otherwise specified in this article, the term "parking spaces" refers to motor vehicle parking spaces.

Sec. 21-6.20 Off-street parking requirements.

- (a) Determining if parking is required, and the appropriate parking ratio. No off-street parking is required in the Primary Urban Center Development Plan area and Ewa Development Plan areas, except for those areas located in the residential, agricultural, and preservation zoning districts. Additionally, no off-street parking is required in any zoning district within one half-mile of an existing or future Honolulu Rail Transit Station, as identified in the accepted Environmental Impact Statement, or in the Transit-Oriented Development Special District. The Minimum Off-Street Parking Ratios shown below on Table 21-6.1 apply to all other areas not identified above. In areas where no parking is required, any parking that is provided must meet the design, dimensions, and other standards within this chapter.

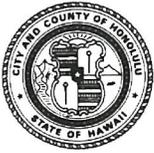
**Table 21-6.1
Minimum Off-Street Parking Ratios**

Uses	Standard (per floor area unless noted otherwise)
RESIDENTIAL Dwellings; boarding facilities; consulates; group living facilities; hotels	1 per 800 square feet of private dwelling or lodging area, not including areas identified in (b)(2)(A)
COMMERCIAL 1 Convenience stores; retail and sales; food and grocery stores (including neighborhood grocery stores); eating and drinking establishments (including bars, nightclubs, taverns, cabarets, and dance halls)	1 per 300 square feet
COMMERCIAL 2 Shopping centers; offices; personal services; commercial kennels; business services; laundromats, coin-operated cleaners; repair establishments; broadcasting stations; financial institutions; automotive and boat parts and services; automobile and boat sales and rentals; catering establishments; dance or music schools; home improvement centers; laboratories (medical or research); medical	1 per 500 square feet



A BILL FOR AN ORDINANCE

clinics; photographic processing; photography studios; plant nurseries; and veterinary establishments	
COMMERCIAL 3 Data processing facilities; sales: appliance, household and office furniture; machinery; and plumbing and heating supply; automobile service stations	1 per 1,000 square feet
AGRICULTURE, INDUSTRY AND WAREHOUSING Agricultural products processing (major or minor); animal products processing; centralized bulk collection, storage and distribution of agricultural products to wholesale and retail markets; sale and service of machinery used in agricultural production; sawmills; and storage and sale of seed, feed, fertilizer and other products essential to agricultural production; self-storage facilities; food manufacturing and processing; freight movers; heavy equipment sales and rentals; linen suppliers; manufacturing, processing and packaging (light or general); maritime-related sales, construction, maintenance and repairing; motion picture and television studios; petroleum processing; port facilities; publishing plants for newspapers, books and magazines; salvage, scrap and junk storage and processing; storage yards; warehousing; waste disposal and processing; and wholesale and retail establishments dealing primarily in bulk materials delivered by or to ship, or by ship and truck in combination; wholesaling and distribution	1 per 2,000 square feet
SCHOOLS AND CULTURAL FACILITIES Art galleries, museums and libraries; day-care facilities; schools	1 per 500 square feet of office, classroom, gallery space
PLACES OF ASSEMBLY Auditoriums; funeral homes/mortuaries; meeting facilities; gymnasiums; sports arenas; theaters	1 per 125 square feet of assembly area, or 1 per 5 fixed seats, whichever is less
RECREATION Amusement and recreation facilities, outdoor and indoor, involving swimming pools and sports played on courts	1 per 250 square feet of assembly area or seating, plus 2 per court, and 10 per field or pool
SPECIAL USES and CIRCUMSTANCES Agriculture - aquaculture; composting; crop production; forestry; roadside stands; game preserves; livestock grazing; livestock production; livestock veterinary services; zoos Commerce and business - skating rinks, bowling alleys; home occupations; trade or convention centers Industrial - base yards; explosive and toxic chemical manufacturing, storage and distribution; resource extraction Outdoor recreation - botanical gardens; golf courses; recreation facilities, other than as herein specified; marinas and marina facilities; boat ramps; golf driving ranges	Determined by Director



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<p>Social and civic service - cemeteries and columbaria; hospitals; prisons; public uses and structures; universities and colleges</p> <p>Transportation - airports; heliports; helistops; and truck terminals</p> <p>Utilities and communications - broadcasting antennas; receive-only antennas; utility installations and wind machines.</p>	
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- (b) Method of calculating the number of required parking spaces.
 - (1) When computation of the total required parking spaces for a zoning lot results in a fractional number with a major fraction (i.e., 0.5 or greater), the number of spaces required will be the next highest whole number.
 - (2) When a building or premises includes uses incidental or accessory to a principal use, the total number of required parking spaces will be determined on the basis of the parking requirements of the principal use. Floor area that may be eliminated for purposes of calculating parking requirements include:
 - (A) Common areas and accessory recreation areas in multifamily dwellings, hotels, group living facilities, boarding facilities, and consulates.
 - (B) Accessory areas in schools, cultural facilities, places of assembly or other similar uses, except all classrooms, offices, and gallery space.
 - (C) Stairwells and ancillary spaces, when directly and exclusively used for mechanical spaces and not actively used by employees. Mechanical car-wash areas are included in this exemption.
 - (D) Other areas that do not induce a parking demand, as determined by the Director.

Sec. 21-6.30 Adjustments and exceptions to parking requirements.

- (a) Change of use. If there is a change in use, the number of off-street parking spaces set forth in Table 21-6.1 for the new use is required, except as provided under Section 21-4.110(e), relating to nonconforming parking and loading.



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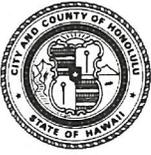
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- (b) For accessory dwelling units, one off-street parking space must be provided in addition to the required off-street parking for the primary dwelling unit, except for accessory dwelling units located within one-half mile of a rail transit station.
- (c) For bed and breakfast homes in areas where parking is required for the dwelling, one off-street parking space for each guest bedroom is required in addition to the required off-street parking for the dwelling.
- (d) Home occupations.
 - (1) Home occupations that depend on client visits including, but not limited to, group instruction, must provide one off-street parking space per five clients on the premises at any one time. This parking requirement is in addition to, and the client parking space must not obstruct, the parking spaces required or provided for the dwelling use. Residents of multifamily dwellings may fulfill this requirement by the use of guest parking with the approval of the building owner, building management, or condominium association.
 - (2) On-street parking of commercial vehicles associated with a home occupation is prohibited; provided that the occasional, infrequent, and momentary parking of a vehicle for pickups or deliveries to service the home occupation is allowed.
- (e) In connection with planned development projects, cluster housing, conditional use permits, existing use permits, and within special districts, the director may impose special parking and loading requirements, including parking maximums.
- (f) Other than multifamily dwellings and hotels, all buildings and uses which are located within the boundaries of any improvement district for public off-street parking and which have been assessed their share of the cost of the improvement district are exempt from off-street parking requirements of this chapter.
- (g) Joint use of parking and loading, on-site and off-site. On-site joint-use of parking and loading is permitted on lots with more than one use. Off-site joint-use of parking and loading is permitted, subject to Section 21-6.70 and the provisions of this section. All parking spaces provided under this Section must be standard size. The number of required parking and loading spaces may be reduced by applying the rates provided in Table 21-6.2 to the total requirement for the various uses when added together.



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**Table 21-6.2
Joint-use Parking and Loading Reduction Matrix**

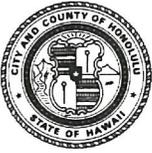
Uses	Residential	Industrial Warehouse/	Office/ Commercial	Retail/ Eating and Drinking Establishment	Hotel/Lodging	Other
Residential	100%	80%	90%	90%	90%	90%
Office/ Warehouse/ Industrial	80%	100%	80%	80%	90%	90%
Retail / Commercial	90%	80%	100%	90%	80%	90%
Eating and Drinking Establishment	90%	80%	90%	100%	90%	90%
Hotel/Lodging	90%	90%	80%	90%	100%	90%
Other	90%	90%	90%	90%	90%	90%
Three different uses	90%	All joint-use parking spaces must be standard size.				
Four or more uses	80%					

- (h) Incentives for alternative transportation.
 - (1) Bicycle parking in excess of the minimum bicycle parking requirements. Four non-required long- or short-term bicycle parking spaces may be substituted for one off-street vehicle parking space, up to a maximum of four vehicle parking spaces or 10 percent of the required off-street vehicle parking spaces, whichever is greater. Bicycle parking must comply with Section 21-6.40.
 - (2) Bicycle sharing. Shared bicycle parking spaces, provided off-street, on private property may be substituted for up to a maximum of two vehicular spaces or 10 percent of the required off-street vehicle parking spaces, whichever is greater. Four shared bicycle parking spaces are equivalent to one off-street vehicle parking space. To be eligible for a reduction in the required number of vehicle parking spaces, the following must be submitted prior to the project's building permit approval:



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- (A) A written agreement with the provider of the bicycle sharing service, including the number and a written description of the location of shared bicycles;
 - (B) A floor plan or site plan of the area clearly identifying the location of the shared bicycles;
 - (C) The property owner and provider's contact information, including street address; and
 - (D) Any other pertinent information as determined by the director.
- (3) Car sharing. One shared car parking space may be substituted for three required off-street vehicle parking spaces. Shared car parking spaces must be accessible to the subscribers of the car sharing service, and may include subscribers who access the shared cars from a public street. To be eligible for a reduction in the required number of vehicle parking spaces, the following must be submitted prior to the project's building permit approval:
- (A) A written agreement with the provider of the car share service, which must include the number of shared car parking spaces and a description of the location of the shared car parking spaces;
 - (B) A floor plan or site plan of the parking area clearly identifying the location of the shared car parking spaces;
 - (C) The property owner and provider's contact information, including street address; and
 - (D) Any other pertinent information as required by the director.
- (4) Motorcycle and moped parking. One motorcycle or moped parking space may be substituted for one off-street vehicle parking space, up to a maximum of two spaces or five percent of the required off-street vehicle parking spaces, whichever is greater. Motorcycle and moped parking must comply with Section 21-6.50.
- (i) The following sections may have additional requirements or opportunities not set forth in this article:



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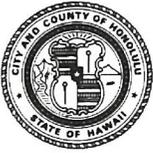
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- (1) Section 21-5.610A(a)(3), relating to a reduction in off-street parking requirements for special needs housing for the elderly;
- (2) Section 21-2.140-1(a), relating to conditions that allow for carports and garages to encroach into front and side yards;
- (3) Section 21-2.140-1(h), relating to issues that may affect the required number of parking spaces when changing uses within a previously developed lot or parcel;
- (4) Section 21-2.140-1(o), relating to situations that may exempt off-street parking requirements for converted accessory structures;
- (5) Section 21-5.720(c)(4), relating to accessory dwelling units; and
- (6) Section 21-5.350(g) relating to home occupations.

Sec. 21-6.40 Bicycle parking.

- (a) Parking for bicycles is required in the apartment, apartment mixed use, business, business mixed use, and resort districts, and in all precincts of the Waikiki special district.
- (b) Number of bicycle parking spaces required. Short-term and long-term bicycle parking spaces must be provided as set forth in Table 21-6.3; provided that no bicycle parking spaces are required for detached single-family and two-family dwellings, and duplexes. Short-term and long-term bicycle parking spaces must be provided whenever new floor area, new dwelling units, or a new commercial parking lot or structure is proposed. When computation of the total required bicycle parking spaces for a zoning lot results in a fractional number with a major fraction (i.e., 0.5 or greater), the number of spaces required will be the next highest whole number.

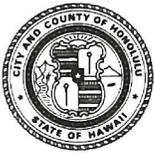


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**Table 21-6.3
Bicycle Parking Spaces Required**

	Short-Term Bicycle Parking	Long-Term Bicycle Parking
Non-Residential Uses	1 space per 2,000 square feet of floor area or portion thereof, or 1 space for every 10 vehicle spaces or portion thereof, whichever is greater.	1 space per 12,000 square feet of floor area, or 1 space per 30 vehicle spaces, or portion thereof, whichever is greater.
Residential Uses	1 space for every 10 dwelling or lodging units.	1 space for every 2 dwellings or lodging units.
Hotel	1 space for every 20 dwelling or lodging units.	1 space for every 10 dwelling or lodging units.

- (c) Anchoring and Security. For each bicycle parking space required, a bicycle rack must be provided, to which a bicycle frame and one wheel may be secured with a high-security U-shaped lock. If a bicycle may be locked to each side of the rack without conflict, each side may be counted toward a required space.
- (d) Size and Accessibility.
 - (1) Each bicycle parking space must be a minimum of two feet in width, six feet in length, and must be accessible without moving another bicycle. Vertical or stacked spaces that meet the dimension, security, and accessibility requirements above are permitted, and the depth/height of these spaces must be a minimum of four feet. All types of bicycle parking spaces must be clear of walls, poles, landscaping (other than ground cover), street furniture, drive aisles, pedestrian ways, and vehicle parking spaces for at least five feet.
 - (2) Short-term bicycle parking spaces must be located as close as practicable to the entrances of the principal uses on a lot so they are highly visible and easily identifiable. Section 21-4.110(e), relating to nonconforming parking and loading, does not apply to short-term bicycle parking spaces.
 - (3) Bicycle parking spaces, including those with fixed racks for parking and locking, are allowed within front yards pursuant to Section 21-4.30(a)(7).
 - (4) Long-term bicycle parking must be provided in the form of enclosed bicycle lockers or easily accessible, secure, and covered bicycle storage. Section 21-4.110(e), relating to nonconforming parking and loading, does not apply to long-term bicycle parking spaces.



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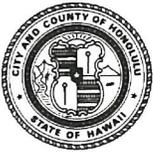
- (5) Bicycle parking spaces within enclosed parking structures must be located as close as practicable to an entrance of the parking structure so they are visible from the street or sidewalk. Where the bicycle parking spaces are not visible from the front entrance, signage indicating the location of the bicycle parking spaces is required.

Sec. 21-6.50 Parking space dimensions and access.

- (a) Dimensions of parking spaces.
 - (1) Standard parking spaces must be at least 18 feet in length and eight feet three inches in width, with parallel spaces at least 22 feet in length.
 - (2) Compact parking spaces must be at least 16 feet in length and seven and one-half feet in width, with parallel spaces at least 19 feet in length.
 - (3) All provided parking spaces must be standard-sized parking spaces, except that duplex units, detached dwellings, and multifamily dwellings may have up to 50 percent of the total number of provided parking spaces as compact parking spaces, and accessory dwelling units may satisfy the parking requirement with a compact parking space.
 - (4) Required parking spaces for boat launching ramps must have a minimum dimension of 40 feet in length and 12 feet in width.
 - (5) Motorcycle and moped parking spaces must be at least eight feet in length and four feet in width, and must provide a minimum five feet wide access way clear of obstructions.
 - (6) Minimum aisle widths for parking bays must be provided in accordance with Table 21-6.4.

**Table 21-6.4
Parking Aisle Widths**

Parking Angle	Aisle Width
0° - 44°	12 ft.
45° - 59°	13.5 ft.
60° - 69°	18.5 ft.
70° - 79°	19.5 ft.
80° - 89°	21 ft.
90°	22 ft.



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If the parking angle is 90 degrees, the minimum aisle width may be reduced by one foot for every six inches of additional parking space width above the minimum width of eight feet and three inches, to a minimum aisle width of 19 feet.

- (7) Ingress and egress aisles must be provided to a street and between parking bays. No driveway leading into a parking area may be less than 12 feet in width, except that driveways for detached dwellings, duplex units, and internal one-way driveways connecting parking aisles must be no less than 10 feet in width.
- (b) Arrangement of parking spaces.
- (1) All parking spaces must be unobstructed; provided that structural support columns may extend a maximum of six inches into the sides of the parking space. A wall is not considered a structural support column.
- (2) Where five or more parking spaces are provided, the spaces or area must be designed or arranged in a manner such that no maneuvering into or from any street, alley or walkway is necessary in order for a vehicle to enter or leave a space, and which allows all vehicles to enter the street in a forward manner. Parking spaces must be individually marked. Compact spaces must be labeled "compact only."
- (3) All parking spaces must be arranged so that any motor vehicle may be moved without moving another motor vehicle; provided that tandem parking is permissible in any of the following instances:
- (A) Where two or more parking spaces are assigned to a single dwelling unit and/or a parking space is assigned to an accessory dwelling unit;
- (B) Where the parking spaces are used as employee parking; provided that at no time may the number of parking spaces allocated for employees exceed 25 percent of the total number of provided parking spaces, and employee tandem parking is limited to a configurations where only one vehicle must be moved to provide access to another;



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- (C) Where all parking is performed by an attendant at all times, and motor vehicles may be moved within the lot without entering any street, alley, or walkway; or
 - (D) For public assembly facilities and temporary events, where user arrivals and departures are simultaneous, and parking is attendant directed.
- (c) Surface materials. Off-street parking spaces, parking lots, and driveways must be maintained with a dust-free, durable, all-weather surface except in the preservation, agriculture, and country districts, where parking lots and driveways may be surfaced with crushed rock or limestone, or as determined by the director pursuant to Article 2. Suitable dust-free all-weather surfaces may include permeable pavers, including grass-block, or similar systems, provided that the surface is maintained to prevent sediment, dirt, mud, or other debris from being transferred into the right-of-way.

Sec. 21-6.60 Electric vehicles.

- (a) Design aspects of electrical vehicle charging stations. All electrical vehicle charging stations must meet the following standards:
 - (1) Equipment. Equipment mounted on pedestals, lighting posts, bollards, or other devices must be designed and located as to not impede pedestrian, bicycle or wheelchair movement, or create safety hazards.
 - (2) Existing standard-sized parking spaces constructed prior to _____, 2019, may be reduced in size to that of a compact space, if necessary, to accommodate electric vehicle charging equipment.

Sec. 21-6.70 Off-site parking and loading.

- (a) Required parking, loading, or bicycle parking spaces are permitted to be located off the premises as off-site parking and loading facilities, in compliance with the provisions regarding conditional uses in Section 21-2.90. Off-site parking and loading may be used in conjunction with joint-use of parking and loading.
- (b) The distance between the entrance to the parking facility and nearest principal entrance of the establishment must not exceed a quarter-mile (1,320 feet) using customary pedestrian routes. Off-site loading facilities must not be separated from the establishment requiring the loading by a street, and must be connected by an improved pedestrian path or sidewalk. The distance between off-site



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bicycle parking and the nearest principal pedestrian entrance of the establishment requiring the bicycle parking must not exceed 400 feet by customary pedestrian routes.

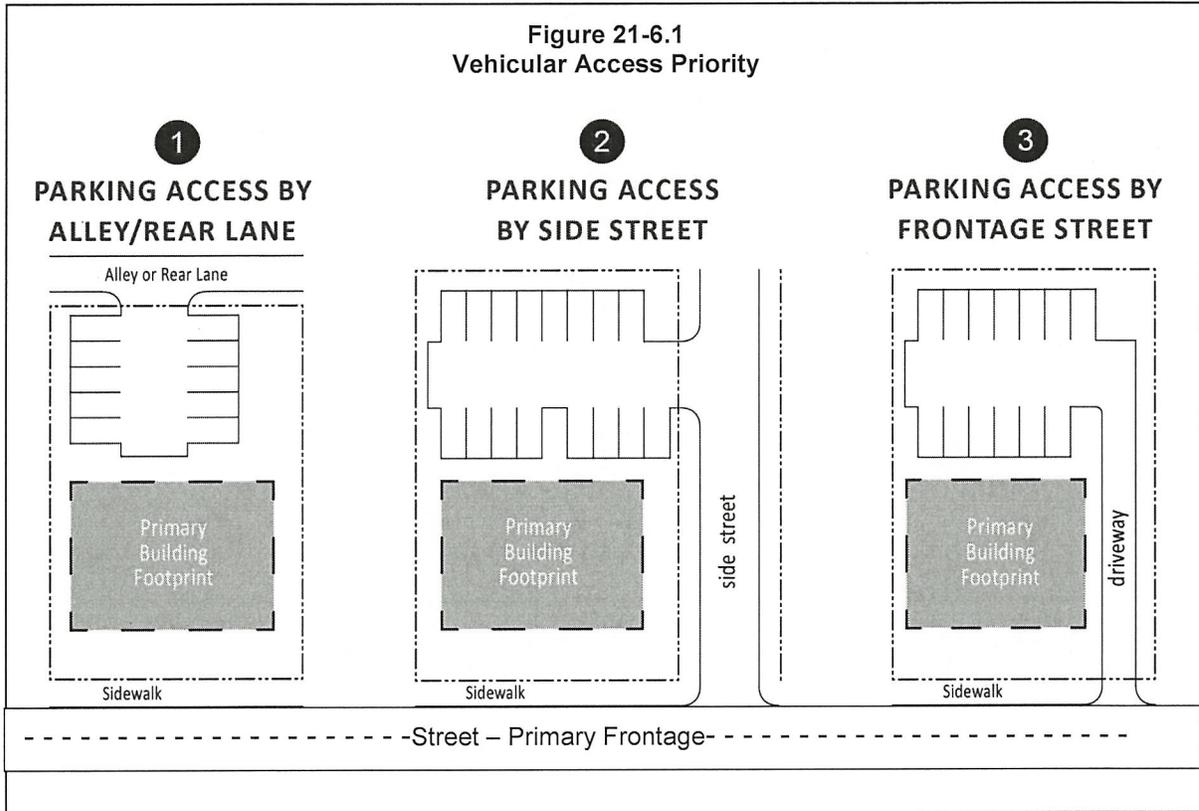
- (c) When the off-site parking or loading is necessary to meet minimum parking requirements, a written instrument must be recorded in the State of Hawaii bureau of conveyances, or the office of the assistant registrar of the land court of the State of Hawaii, or both, as appropriate, for both the lot containing the principal structure or use and the remote parking lot or structure. The agreement must assure the continued availability of the number of required spaces being provided off-site. The agreement must stipulate that if such a space is not maintained, or space acceptable to the director is not substituted, the use, or such portion of the use that is deficient in the number of parking spaces, must be discontinued. The agreement will be subject to the approval of the department of the corporation counsel as to form and legality.

Sec. 21-6.80 Surface parking site planning.

- (a) Location and Configuration.
 - (1) Parking lots or structured parking may not provide motor vehicle access from the primary frontage if other options are available. If the lot has more than one frontage, then one frontage must be designated as the primary frontage. If a street is already designated as a Key Street in the TOD Special District, or if only one of the frontages abuts an improved sidewalk, then this frontage must be the primary frontage. Figure 21-6.1, Vehicular Access Priority, shows various ways to access a parking lot. Diagram 1 of Figure 21-6.1 shows the most preferred option and diagram 3 shows the least preferred option.

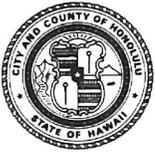


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(2) Setbacks for parking lots.

- (A) At-grade or surface parking lots, except those in the residential and country districts, must be set back a minimum of 10 feet from all side and rear property lines which adjoin lots in country, residential, apartment or apartment mixed use zoning districts.
- (B) Within all districts, except for the residential, country, agriculture, and industrial districts, at-grade parking must be set back 25 feet from the buildable-area boundary adjacent to the primary frontage, unless the parking lot is screened by a building, per subsection (c).
- (C) Parking and loading is not permitted in any required yards, except in the residential, country and agriculture districts where parking may encroach into the required yards by up to three



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feet. For lots that are split zoned and have non-residential parking, the parking spaces may encroach entirely into the side yard created by the zoning boundary that splits the lot.

- (b) Parking lot landscaping and screening. Parked motor vehicles in parking lots must be screened from view from all streets and public spaces.
- (1) Parking lots of five or more parking spaces must provide a minimum five-foot landscape strip adjacent to any adjoining street right-of-way. This five-foot strip must contain a continuous screening hedge not less than 42 inches in height with plantings no more than 18 inches on center. If the landscape strip is wider than five feet, the hedge may be placed elsewhere in the strip. A minimum 42-inch-high wall or fence may be placed behind the setback line in lieu of a hedge. If a wall or solid fence is erected, either a vine or shrub must be planted at the base of the wall or solid fence on the side fronting the property line. One canopy form tree, a minimum of two-inch caliper, must be planted in the landscape strip for each 30 feet or major fraction of adjacent lineal street frontage. (See Figure 21-6.2.)
 - (2) To provide shade in parking lots and minimize visibility of paved surfaces, parking lots with more than five parking spaces must provide one canopy form tree a minimum of two-inch caliper for every six parking spaces or major fraction thereof, or one canopy form tree of six-inch caliper or more for every 12 parking spaces or major fraction thereof (see Figure 21-6.2). Each tree must be located in a planting area or tree well of no less than 16 square feet in area for 2-inch caliper trees, or 25 square feet in area for 6-inch caliper trees. The minimum width of an area for a tree is three feet. If wheel stops are provided, continuous planting areas with low ground cover, and tree wells with trees centered at the corner of parking spaces may be located within the three-foot overhang space of parking spaces (see Figure 21-6.3). Hedges and other landscape elements, including planter boxes over six inches in height, are not permitted within the overhang space of the parking spaces. Trees must be sited so as to evenly distribute shade throughout the parking lot. As an alternative to the above described planter areas for trees, a tree box specifically designed to treat stormwater runoff may be used on a one-for-one basis in place of the landscaped area. Tree boxes must be approved for compliance with the rules related to stormwater quality.



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- (3) All service areas and loading spaces must be screened from adjoining lots in the country, residential, apartment, and apartment mixed use districts by a wall six feet in height.
- (4) All plant material and landscaping must be provided with a permanent irrigation system.

Figure 21-6.2
Permitted Vehicle Overhangs

Example: One canopy tree for every six parking spaces.

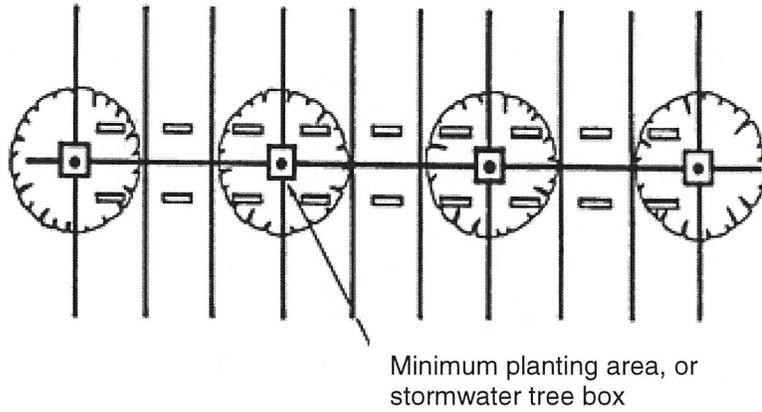
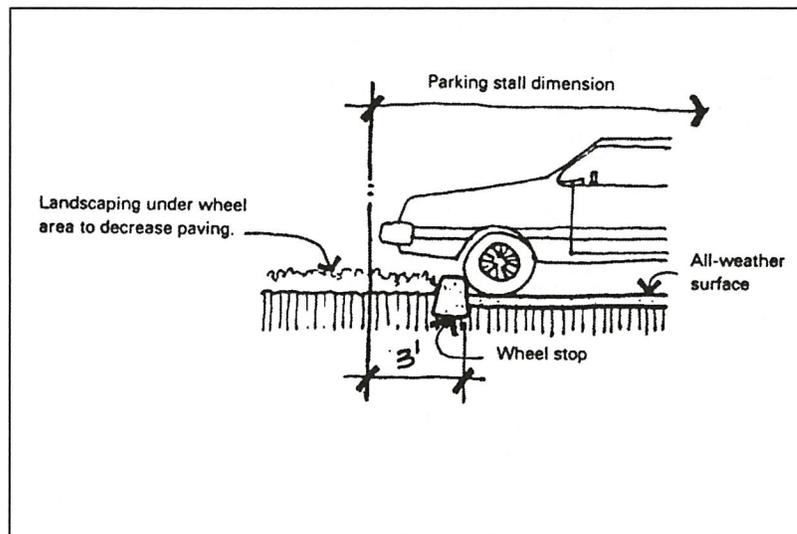


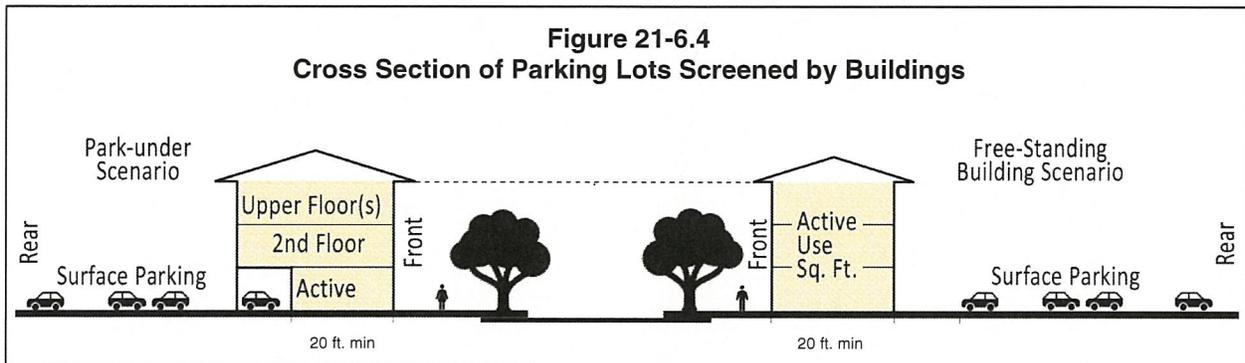
Figure 21-6.3
Permitted Vehicle Overhangs





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- (c) Parking lots screened by buildings. Parking lots may also be screened with buildings, as illustrated in Figure 21-6.4. (Figure 21-6.4 is not meant to suggest the required height limitations of the proposed buildings.) The requirements are as follows:
- (1) The depth of active floor area must be a minimum of 20 feet, as measured from the front buildable area boundary;
 - (2) Below grade parking (not illustrated in Figure 21-6.4) may extend under the principal buildings that face streets, provided that the below-grade parking does not interfere with at-grade access to the required active floor area; and
 - (3) If parking is screened by an active use in the manner shown in Figure 21-6.4, the minimum yards of the underlying zoning district apply to the building, and override any other parking setbacks at the primary frontage.



- (d) Parking lot lighting. Lighting or illumination for parking lots must be designed or shielded to prevent any direct illumination toward any other zoning lot or street.

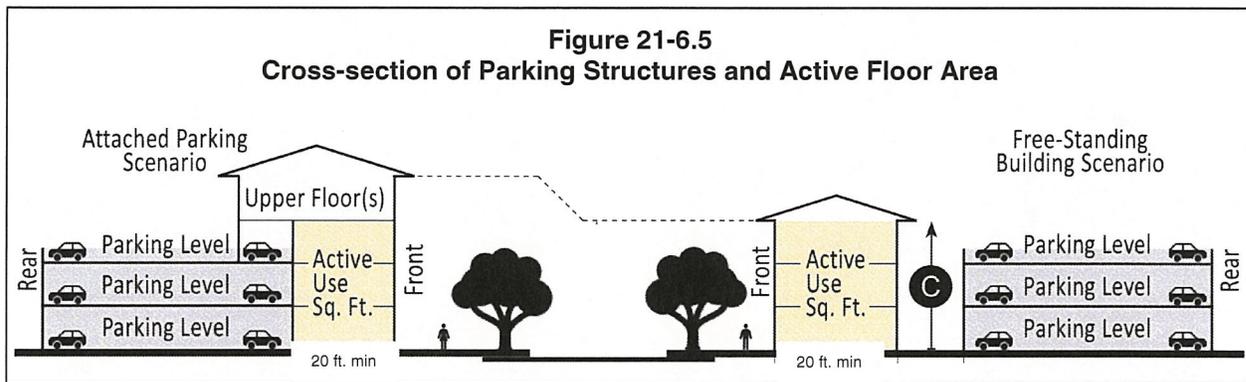
Sec. 21-6.90 Structured parking site planning and design standards.

- (a) Location and Configuration.
- (1) All structured parking within 40 feet of a buildable area boundary adjacent to a street, other right-of-way (such as a bicycle path), or public park must be lined, wrapped, or screened with active floor area, except those in the industrial districts. See Figure 21-6.5. The requirements are as follows:

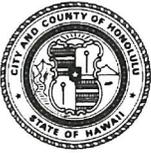


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- (A) The depth of active floor area must be a minimum of 20 feet, as measured from the buildable area boundary;
- (B) The height of the active floor area must be equal or greater than the height of the parking levels;
- (C) Below-grade parking (not illustrated in Figure 21-6.5) may extend under principal buildings that face streets; provided that the below-grade parking does not interfere with at-grade access to the required active floor area from the primary frontage.



- (2) Any open parking level that is not wrapped or screened, including those facing the side and rear of the lot, must have a perimeter wall at least 30 inches in height to screen vehicular lights that may be cast onto adjacent property.
- (3) Vehicular access to parking structures must follow the same prioritization as parking lots set forth in Section 21-6.80.
- (4) All mechanical equipment on or in structured parking that is visible from a street, right-of-way, or public park, including but not limited to electrical panels, transformers, telecommunication distribution boxes, and backflow preventers must be screened from view. Mechanical equipment necessary for emergency responders, such as fire prevention standpipes, need not be screened.
- (5) Mechanical parking systems are permitted in parking structures.



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- (6) Illuminated parking areas within the structure and on the roof must be designed or shielded to prevent any direct illumination toward any zoning lot or street.
- (b) Landscape screening for parking structures. Parking structures which are adjacent to zoning lots with side or rear setback requirements must meet the following requirements.
 - (1) A 30-inch landscaping strip along the abutting property line must be provided, and consist of landscaping a minimum of six feet in height. A solid wall six feet in height may be substituted for this requirement.
 - (2) A minimum two-inch caliper vertical-form tree must be planted for every 30 linear feet of structured parking building length facing a required yard.

Sec. 21-6.100 Unbundled parking.

Off-street parking spaces may be leased or rented through a separate agreement, but may not be sold as condominiumized real estate to individual owners, other than a management company, homeowner's association, or similar entity capable of managing all off-street parking spaces on the site.

Sec. 21-6.110 Off-street loading requirements.

- (a) Required number of loading spaces. Off-street loading requirements apply to all zoning lots exceeding 7,500 square feet in lot area for the type of uses specified in Table 21-6.5.



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**Table 21-6.5
Required Number of Loading Spaces**

Use or Use Category	Floor Area in Square Feet	Loading Space Requirements
A. Retail stores, eating and drinking establishments, shopping centers, wholesale operations, warehousing, business services, personal services, repair, manufacturing, self-storage facilities	2,000 - 10,000	1
	10,001 - 20,000	2
	20,001 - 40,000	3
	40,001 - 60,000	4
	Each additional 50,000 or major fraction thereof	1
B. Hotels, hospitals or similar institutions, places of public assembly	5,000 - 10,000	1
	10,001 - 50,000	2
	50,001 - 100,000	3
	Each additional 100,000 or major fraction thereof	1
C. Offices or office buildings	20,000 - 50,000	1
	50,001 - 100,000	2
	Each additional 100,000 or major fraction thereof	1
D. Multifamily dwellings (units)	20 – 150	1
	151 – 300	2
	Each additional 200 or major fraction thereof	1

(b) Method of calculating the number of required loading spaces.

- (1) If a building is used for more than one use, and the floor area for each use is less than the minimum floor area that would require a loading space, and the aggregate floor area of the several uses exceeds the minimum floor area of the use category requiring the greatest number of loading spaces, a minimum of one loading space is required.



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- (2) Basements devoted to a use having a loading requirement count towards the total floor area for calculating loading requirements.
- (c) Special Loading Requirements. Day care centers and schools have special loading requirements. Day care centers must provide a pickup and drop off area equivalent to four parking spaces pursuant to Section 21-5.180. Schools with more than 25 students must provide a pickup and drop off area equivalent to four parking spaces pursuant to Section 21-5.590(c).

Sec. 21-6.120 Adjustments and exceptions to loading requirements.

- (a) Exceptions to off-street loading requirements. The director may impose special loading requirements in connection with planned development projects, cluster housing, conditional use permits, and projects located within special districts.
- (b) Joint use of loading. Two or more uses on the same or adjacent zoning lots may share a loading area. If the loading area is being jointly used by different property owners, a loading agreement between the owners is required. A jointly used loading agreement must satisfy the requirements of a jointly used parking agreement pursuant to Section 21-6.70.
- (c) Change of use. If there is a change in use, the number of off-street loading spaces required pursuant to Table 21-6.5 for the new use must be provided, except as provided under Section 21-2.140.

Sec. 21-6.130 Loading space dimensions and access.

- (a) Dimensions of loading spaces.
 - (1) When only one loading space is required, the minimum horizontal dimensions of the space are 19 feet by 8-1/2 feet, with a minimum vertical clearance of 10 feet.
 - (2) When more than one loading space is required, the minimum horizontal dimensions for one-third of required spaces is 12 feet by 35 feet, with a minimum vertical clearance of at least 14 feet. For the remaining required loading spaces, the minimum horizontal dimensions are 19 feet by 8-1/2 feet, with a minimum vertical clearance of 10 feet.
 - (3) Access to loading spaces must have the same minimum vertical clearance as required for the loading spaces.



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- (b) Location and improvement of loading spaces.
 - (1) If loading space areas are illuminated, all sources of illumination must be designed or shielded to prevent any direct illumination toward any zoning lot or street.
 - (2) Each required loading space must be identified as such and must be reserved for loading purposes.
 - (3) All loading spaces and maneuvering areas must be maintained with an all-weather surface.
 - (4) Loading spaces or maneuvering areas are not permitted in any required yard, except in preservation, agricultural and country districts. For lots that are split zoned and have non-residential loading, the loading spaces may encroach entirely into the side yard created by the zoning boundary that splits the lot.
 - (5) The width of loading bays entering buildings must be no wider than 25 feet when facing streets, except in agricultural, country, and industrial districts.
 - (6) Vehicular access to loading areas should not be provided from a primary frontage. Access should be located where it is least likely to impede pedestrian circulation.

Sec. 21-6.140 Passenger ride hailing services and deliveries.

- (a) Except in the preservation, agricultural, country, and industrial districts, each zoning lot that is required to have at least two loading spaces must provide one of the following or a combination thereof:
 - (1) A driveway sized to accommodate at least two vehicles designed for drop-off and pickup of passengers and deliveries; or
 - (2) One dedicated short-term, standard sized, parking space (ten-minute maximum parking period) for every required loading space for the drop off and pickup of passengers and deliveries. The space is subject to all parking setback requirements. It must be located near the entrance to the parking area and accessible to drivers or operators of delivery vehicles. These spaces may count toward the minimum parking requirement.



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Sec. 21-6.150 Nonconforming off-street parking and loading.

Parking and loading spaces that do not conform to the standards and requirements of this article should become conforming over time. If a nonconforming parking or loading space is modified to conform or a nonconformity is reduced, the nonconformity may not be reintroduced. Certain nonconformities may be allowed to continue pursuant to Section 21-4.110."

SECTION 4. Section 21-2.140-1, Revised Ordinances of Honolulu 1990, is amended to read as follows:

"Sec. 21-2.140-1 Specific circumstances.

The director may grant an adjustment from the requirements of this chapter under the following circumstances[;].

(a) Carports and Garages.

(1) When located in a residential district, a one-car or two-car carport or garage may encroach into required front [~~and/or~~] or side yards, including those in special districts, only under the following conditions:

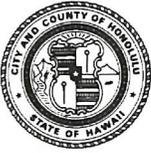
(A) [~~That no~~] No other viable alternative site exists relative to the location of an existing dwelling (including additions), legally constructed prior to October 22, 1986, [~~and/or~~] or to the topography of the zoning lot; and

(B) [~~That the~~] The landowner must authenticate the nonconformity of the existing dwelling, carport, or garage, if necessary.

Any carport or garage covered by this subsection [~~shall~~] must not be converted to or be used for a use other than a carport or garage.

(2) The maximum horizontal dimensions for the carport or garage [~~shall~~] generally must not exceed 20 feet by 20 feet[~~, except~~]; provided that the dimensions may be reasonably increased to accommodate an existing retaining wall or similar condition.

(b) Energy-saving Rooftop Designs. Rooftop designs [~~which~~] that incorporate energy-saving features, [~~such as, but not necessarily~~] including but not limited to[;] vented ceilings [~~and~~] or louvered skylights, may extend above the [~~governing~~



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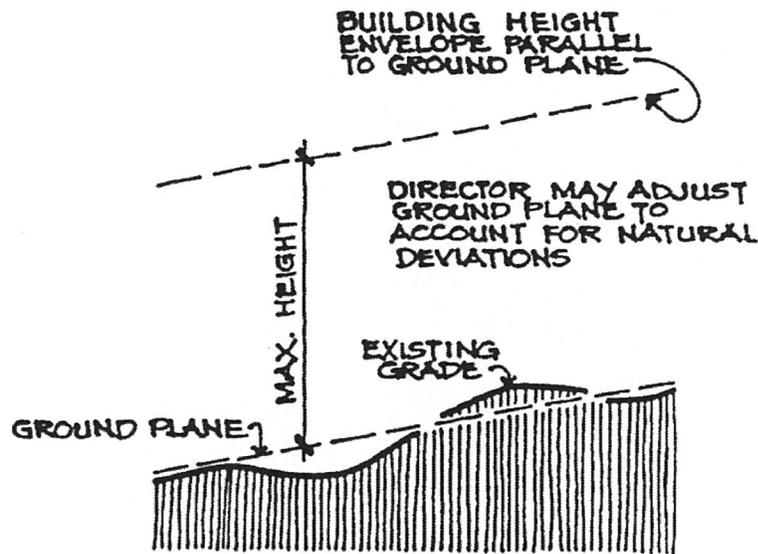
~~district~~] height limit or height setback of the underlying zoning district by not more than five feet[,]; provided that:

- (1) The building is not a detached dwelling unit or duplex[-]; and
 - (2) The proposal [~~shall be~~] is subject to design review. The roofing treatment [~~shall~~] must be attractive, give deference to surrounding design, and be an integral part of the design scheme of the building.
- (c) Flag Lot Access Width. Where unusual terrain or existing development does not allow the required access drive, the director may [~~(i) adjust~~]:
- (1) Adjust the minimum access width to no less than 10 feet, and [~~(ii) allow~~]
 - (2) Allow more than dual access to an access drive, provided that the following criteria are met:
 - [~~(1)~~](A) The appropriate government agencies do not object to the proposal;
 - [~~(2)~~](B) No more than 3 flag stems or access drives are located adjacent to one another, the access drive(s) do not serve more than 5 dwelling units, and the combined access drive pavement width does not exceed 32 feet; and
 - [~~(3)~~](C) When more than dual access to a flag stem(s) or access drive(s) is proposed, the design results in one common driveway and one curb cut to serve all lots adjoining the flag stem(s).
- (d) Grade Irregularities. Where unusual natural deviations occur in grade, the director may adjust the building height envelope to permit reasonable building design. An adjustment [~~shall~~] may be made only in accordance with the intent of the pertinent district regulations (See Figure 21-2.2).



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Figure 21-2.2
ZONING ADJUSTMENT:
GRADE IRREGULARITIES



(e) Lanai Enclosures. Lanais, which are a part of buildings constructed on or before October 22, 1986 [which] that have reached the maximum permitted floor area, may be enclosed if they meet all of the following criteria:

- (1) The enclosure meets a unified design scheme approved by either the condominium association or the building owner, whichever is applicable;
- (2) Other lanais in the building have been similarly enclosed; and
- (3) Lanais [which] that have already been enclosed have been done so legally.

~~[(f) Loading Requirements--Joint Use. The director may adjust the number of loading spaces to 50 percent of the required number when such spaces are to be jointly used by two or more uses on the same zoning lot; provided that:~~



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- ~~(1) Each use has access to the loading zone without crossing driveways, public streets or sidewalks;~~
- ~~(2) All joint loading spaces are in reasonable proximity to the uses they serve, and can be jointly used without disrupting other activities on the lot; and~~
- ~~(3) The adjustment shall not be used to reduce the loading available for any single use below the minimum required for that use.]~~

~~(g)~~(f) Loading Requirements--Low-rise Multifamily Dwellings. The director may adjust or waive the loading requirement for low-rise multifamily dwellings provided that:

- (1) The project consists of more than one building;
- (2) Buildings do not exceed three stories; and
- (3) There is sufficient uncovered parking and aisle or turnaround space to accommodate occasional use for loading.

~~(h)~~(g) Off-street Parking and Loading Requirements Upon Change in Use.

- (1) Change in Use on Zoning Lot With Conforming Parking and Loading. Notwithstanding Article 6, if there is a change in use on a zoning lot, with no increase in floor area, which would otherwise require the addition of no more than three parking spaces ~~[and/or]~~ or no more than one loading space, then the director may adjust the number of additional parking or loading spaces required~~[, or]~~, subject to the following conditions:
 - (A) There are no reasonable means of providing the additional parking ~~[and/or]~~ or loading spaces ~~[which]~~ that would otherwise be required, including but not limited to joint use of parking facilities and off-site parking facilities;
 - (B) There was no previous change in use on the zoning lot to a use with higher parking or loading ~~[standard]~~ standards during the five-year period immediately preceding the change in use;
 - (C) There was no previous grant of an adjustment from parking and loading requirements on the zoning lot pursuant to this subdivision; and
 - (D) The parking and loading ~~[shall]~~ will thereafter be deemed to be nonconforming.



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- (2) Change in Use on Zoning Lot with Nonconforming Parking and Loading. Notwithstanding Section 21-4.110(e)(1), if there is a change in use on a zoning lot, with no increase in floor area, ~~[which]~~ that would otherwise require the addition of no more than three parking spaces ~~[and/or]~~ or no more than one loading space, nonconforming parking and loading may be continued, with no additional parking or loading spaces being required~~[-en]~~; subject to the following conditions:
- (A) There are no reasonable means of providing the additional parking ~~[and/or]~~ or loading spaces ~~[which]~~ that would otherwise be required, including but not limited to joint use of parking facilities and off-site parking facilities;
 - (B) There was no previous change in use on the zoning lot to a use with a higher parking or loading standard during the five-year period immediately preceding the change in use; and
 - (C) There was no previous grant of an adjustment from parking and loading requirements on the zoning lot pursuant to this subdivision or subdivision (1).

~~[(i)]~~(h) Rebuilding or Expansion of a Nonconforming Ohana Dwelling. Nonconforming ohana dwellings may be altered, enlarged, repaired, or rebuilt ~~[under]~~; provided that all of the following conditions~~[(all must apply)]~~ are satisfied.

- (1) The ohana dwelling is a nonconforming structure or dwelling unit. An ohana dwelling will be deemed nonconforming when ~~[an "ohana"]~~ the building permit for an ohana dwelling was issued, and any of the following circumstances ~~[applies]~~ apply:
- (A) The ohana dwelling is no longer in an ohana-eligible area pursuant to Section 21-2.110-3;
 - (B) The ohana dwelling unit is occupied by persons who are not related by blood, marriage, or adoption to the family residing in the ~~[first]~~ primary dwelling, and the building permit for the ohana dwelling was issued prior to September 10, 1992 ~~[(the effective date of Ordinance 92-101, which established the family occupancy requirement)]~~;
 - (C) A declaration of condominium property regime or declaration of horizontal property regime was filed with either the State of Hawaii bureau of conveyances ~~[of the State of Hawaii]~~ or the State of



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Hawaii land court [~~of the State of Hawaii~~] on or before December 31, 1988; or

(D) The ohana dwelling was legally established but is no longer allowed pursuant to Section 21-8.20(c)(2) and (3).

(2) The building area of the ohana dwelling in combination with the building area of the primary dwelling does not exceed the current maximum building area development standard for the underlying zoning district.

(3) The ohana dwelling complies with all other development standards for the underlying zoning district, including off-street parking standards.

(4) Unless the ohana dwelling was lawfully established prior to December 31, 1988, the [~~owner or~~] owners shall comply with Section 21-8.20(c)(8) prior to [~~approval~~] the issuance of any building permit.

[(+)](i) Receive-only Antenna Height. Receive-only antennas may exceed the [~~governing~~] applicable zoning district height limit [~~under~~], subject to the following conditions:

(1) The zoning lot is not located in a residential district where utility lines are predominantly located underground; [~~and~~]

(2) The applicant shall provide evidence to the director that adequate reception by the antenna, for the purposes for which the antenna is designed, cannot be provided anywhere on the zoning lot at or below the applicable zoning district height limit, and the antenna [~~shall~~] must not extend above a height greater than what is shown by the evidence provided to the director to be necessary to provide adequate reception[, ~~and~~]; provided that in no case [~~shall~~] may the antenna extend more than 10 feet above the [~~governing~~] applicable zoning district height limit; [~~or~~] and

(3) A receive-only antenna may be placed on top of an existing structure [~~where the height of the structure~~] that is nonconforming[, ~~in height~~]; provided that the antenna [~~shall~~] must not extend above the height of the structure by more than 10 feet.

[(+)](j) Residential Height. The director may adjust the second plane of the building height envelope up to a maximum of 35 feet[, ~~only under~~], subject to the following conditions:



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- (1) The ~~[lot has a]~~ slope of the lot is greater than 40 percent;
- (2) There is no ~~[other]~~ reasonable development alternative without an increase in the height envelope; and
- (3) The lot ~~[shall]~~ must be limited to dwelling use.

~~[(+)]~~(k) Retaining Walls. The director may adjust the maximum height of ~~[the]~~ a retaining wall ~~[on a]~~ upon finding that additional height is necessary because of safety, topography, subdivision design, or lot arrangement ~~[and]; provided that~~ the aesthetic impact of the wall would not be adverse to the neighborhood and community as viewed from any street. The director may impose reasonable conditions when granting this additional height, such as ~~[type of materials and colors]~~ material used, color, landscaping, terracing, setbacks, and offsets, as may be necessary to maintain the general character of the area.

~~[(+)]~~(l) Rooftop Height Exemption. Rooftop structures ~~[which]~~ that principally house elevator machinery and air conditioning equipment may extend above the ~~[governing]~~ applicable zoning district height limit for structures or portions of structures~~[, provided they meet the following conditions:]; provided that all of the following conditions are satisfied:~~

- (1) If the elevator cab opens on the roof, machinery ~~[may]~~ must not be placed above the elevator housing;
- (2) The highest point of the rooftop structures ~~[shall]~~ must not exceed five feet above the highest point of the equipment structures. Rooftop structures principally housing elevator machinery or air conditioning equipment ~~[which was]~~ that were installed under a building permit issued before February 9, 1993, ~~[shall]~~ will be permitted even if they exceed the 18-foot limit of Section 21-4.60(c)(1) so long as they do not exceed five feet above the highest point of the equipment structure;
- (3) ~~[The building is not located in a special district.]~~ If the building is located in a special district, the special district requirements ~~[shall]~~ will prevail;
- (4) The proposed rooftop structures ~~[shall]~~ will be subject to design review. The design ~~[shall]~~ must be attractive, give deference to surrounding design, and be an integral part of the design scheme of the building; and
- (5) Areas proposed to be covered by the rooftop structure will not be counted as floor area~~[,]~~ ; provided that they are not used for any purpose ~~[except]~~



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other than for covering rooftop machinery. Areas used for purposes other than reasonable aesthetic treatment ~~[shall]~~ will be counted as floor area.

~~[(A)]~~(m) Sign Master Plan. A sign master plan is a voluntary, optional alternative to the strict sign regulations of this chapter, intended to encourage some flexibility in order to achieve good design (including compatibility and creativity), consistency, continuity, and administrative efficiency in the utilization of signs within eligible sites. Under this alternative, and subject to the provisions of this subsection, the director may approve a sign master plan that permits the exceptions to the sign regulations of this chapter set forth in subdivision (2).

(1) Eligibility. Developments with three or more principal uses on a zoning lot, other than one-family or two-family detached dwellings or duplex units, ~~[shall be]~~ are eligible for consideration of a zoning adjustment for a sign master plan. An applicant must have the authority to impose the sign master plan on all developments on the zoning lot.

(2) Flexibility. The following exceptions to the sign regulations of this chapter may be permitted pursuant to an approved sign master plan.

(A) Physical Characteristics. The maximum number of permitted signs, sign area, and the height and physical dimensions of individual signs, may be modified; provided that:

(i) No sign ~~[shall]~~ may exceed any applicable standard relating to height or dimension by more than 20 percent;

(ii) The total permitted sign area for signs ~~[which]~~ that are part of a sign master plan ~~[shall]~~ may not be increased by more than 20 percent beyond ~~[that otherwise]~~ the total sign area permitted by the underlying sign regulations for the site; and

(iii) The total number of signs ~~[which]~~ that are part of a sign master plan ~~[shall]~~ may not exceed 20 percent of the total number of signs ~~[otherwise]~~ permitted by the underlying sign regulations for the site; provided that when computation of the maximum number of permitted signs results in a fractional number, the number of allowable signs ~~[shall]~~ will be the next highest whole number.

(B) Sign Types. The types of business signs permitted for ground floor establishments may include hanging, marquee fascia, projecting, roof, and wall signs.



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- (i) When marquee fascia signs are [~~to be utilized~~] used, the signs may be displayed above the face of the marquee^{[,];} provided that the signs [~~shall~~] must not exceed a height of more than 36 inches above the marquee face.
- (ii) When wall signs are [~~to be utilized~~] used, signs displayed as individual lettering placed against a building wall are encouraged.
- (C) Sign Illumination.
 - (i) Where direct illumination is not otherwise permitted by the underlying sign regulations for the site, sign copy [~~and/or~~] or graphic elements of business [~~and/or~~] or identification signs for ground floor establishments may be directly illuminated^{[,];} provided that any remaining sign area [~~shall~~] must be completely opaque and not illuminated.
 - (ii) Signs for second floor establishments may be indirectly illuminated.
- (D) Sign Location. An appropriate, consistent pattern for the placement of regulated signs within the project site [~~shall~~] must be approved in the sign master plan^{[,];} provided that all signs [~~shall~~] must be located on the building containing the identified establishment, and no ground sign [~~shall~~] may be located within a required yard except as may be permitted by this chapter.
- (E) The standards and requirements for directional signs, information signs₁, and parking lot traffic control signs may be established by the director, as appropriate.
- (3) Sign Master Plan Approvals. The director may approve a sign master plan only upon a finding that, in addition to the criteria set forth in Section 21-2.140-2, the following criteria have been [~~met~~] satisfied:
 - (A) The proposed sign master plan will accomplish the intent of this subsection;
 - (B) The size and placement of each sign will be proportional to and visually balanced with the building facade of the side of the building upon which it is maintained;



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- (C) All signs regulated by this chapter and maintained upon the site will feature the consistent application of not less than one of the following design elements: materials, letter style, color, shape or theme; and
- (D) ~~[In all respects not]~~ Except as may be adjusted by the sign master plan, all signs regulated by this chapter and maintained upon the site ~~[will]~~ must conform to the provisions of this chapter.

The director may impose appropriate conditions and additional controls ~~[as may be appropriate]~~ on the approval of a sign master plan.

(4) Implementation.

- (A) The director shall maintain a copy of the approved sign master plan for each project to facilitate the expedited processing of sign permits for that project. The director shall review each sign permit application for an individual sign within an affected project for its conformity to the approved sign master plan. Upon determining that the sign permit application conforms to the approved sign master plan, the director shall issue the sign permit for the sign.
- (B) Except as otherwise provided in this paragraph ~~[(B)]~~, no sign ~~[shall]~~ may be maintained upon a site subject to an approved sign master plan unless the sign conforms to the sign master plan. If a site has existing signs ~~[which]~~ that will not conform to the approved sign master plan, the master plan ~~[shall]~~ must specify a reasonable time period, as approved by the director, for conversion of all existing signs to the design scheme set forth in the approved master plan~~[-]~~; provided that in no event ~~[shall]~~ may the time period for full conformance exceed one year from the date ~~[of approval of]~~ the sign master plan is approved.

~~[(e)](n)~~ Conversion of accessory structures. An existing, legally established~~[-]~~ accessory structure constructed prior to September 14, 2015, in the country or residential district may be converted to an accessory dwelling unit and allowed to exceed the maximum floor area established by Section 21-5.720(c)(1) ~~[and/or]~~, or be exempted from the off-street parking requirement established by Section 21-5.720(c)(4) and contained in Table 21-6.1 subject to the following conditions:



CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ORDINANCE _____

BILL _____

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- (1) [~~Provided the~~] The director [~~finds~~] must find that viable constraints do not allow the reduction of the floor area of the existing accessory structure[.];
and
- (2) [~~Provided that the~~] The director [~~finds~~] must find that no feasible alternative off-street parking site exists due to the placement of the structure on,
[~~and/or~~] or the topography of, the zoning lot."



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SECTION 5. Table 21-3, Revised Ordinances of Honolulu 1990, as amended by SECTION 6 of Ordinance 19-18 ("Master Use Table"), is amended by amending the "Transportation and Parking" category to revise the "Joint use of parking facilities" and "Off-site parking facilities" entries to read as follows:

**"TABLE 21-3
MASTER USE TABLE**

In the event of any conflict between the text of this Chapter and the following table, the text of the Chapter shall control. The following table is not intended to cover the Waikiki Special District; please refer to Table 21-9.6(A).

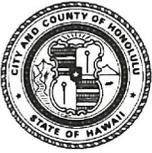
- KEY:** Ac = Special accessory use subject to standards in Article 5
 Cm = Conditional Use Permit-minor subject to standards in Article 5; no public hearing required (see Article 2 for exceptions)
 C = Conditional Use Permit-major subject to standards in Article 5; public hearing required
 P = Permitted use
 P/c = Permitted use subject to standards in Article 5
 PRU = Plan Review Use

ZONING DISTRICTS																					
USES (Note: Certain uses are defined in Article 10.)	P-2	AG-1	AG-2	Country	R-20, R-10	R-7.5, R-5, R-3.5	A-1	A-2	A-3	AMX-1	AMX-2	AMX-3	Resort	B-1	B-2	BMX-3	BMX-4	I-1	I-2	I-3	IMX-1
Transportation and Parking																					
Joint use of parking and loading facilities				P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm	P/c Cm
Off-site parking and loading facilities				Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm

SECTION 6. Section 21-3.80-1, Revised Ordinances of Honolulu 1990, is amended to read as follows:

"Sec. 21-3.80-1 Apartment district uses and development standards.

- (a) Within the apartment districts, permitted uses and structures [~~shall be~~] are as [~~enumerated~~] set forth in Table 21-3.
- (b) Within the apartment districts, development standards [~~shall be~~] are as [~~enumerated~~] set forth in Table 21-3.3.



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(c) Additional Development Standards.

(1) Except for necessary access drives and walkways, all yards ~~[shall]~~ must be landscaped.

~~[(2) Optional Yard. In the A-2 and A-3 districts, parking lots and garages may extend to side and rear property lines, provided the following requirements are met:~~

~~(A) An area or areas of open space equivalent to the area to be used for parking or accessory use structures are provided elsewhere on the zoning lot. This open space shall be maintained in landscaping, except for drives or walkways necessary for access to adjacent streets. Parking may overhang the open space up to three feet if wheel stops are installed. A minimum of 50 percent of the open space shall be contiguous to the street frontage abutting the zoning lot;~~

~~(B) Any parking floor in the 10 feet adjacent to the property line shall not be more than four feet above existing grade; and~~

~~(C) Landscaping required under Section 21-4.70 is provided and maintained.~~

~~(3)~~(2) Height Setbacks. In the A-2 and A-3 districts, for any portion of a structure over 40 feet in height, additional side and rear setbacks ~~[shall]~~ must be provided~~;~~ for as follows:

(A) For each 10 feet of additional height or portion thereof, an additional one-foot setback [shall] must be provided[-The]; and

(B) The additional setback [shall] pursuant to paragraph (A) must be a continuous plane from the top of the structure to the height of 40 feet above grade (see Figure 21-3.3)."

SECTION 7. Section 21-3.90-1, Revised Ordinances of Honolulu 1990, as amended in SECTION 2 of Ordinance 17-55, is amended to read as follows:

"Sec. 21-3.90-1 Apartment mixed use district uses and development standards.



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- (a) Within the apartment mixed use districts, all uses and structures [~~shall be~~] are as [~~enumerated~~] set forth in Table 21-3.
- (b) Within the apartment mixed use districts, development standards [~~shall be~~] are as [~~enumerated~~] set forth in Table 21-3.3.
- (c) Additional Development Standards.
 - (1) Except for necessary access drives and walkways, all yards must be landscaped.
 - ~~[(2)]~~ (2) Optional Yard Siting. In the AMX-2 and AMX-3 districts, parking lots and garages may extend to side and rear property lines, provided the following requirements are met:
 - ~~(A)~~ (A) An area or areas of open space equivalent to the area to be used for parking or accessory use structures are provided elsewhere on the zoning lot. This open space must be maintained in landscaping, except for drives or walkways necessary for access to adjacent streets. Parking may overhang the open space up to three feet if wheel stops are installed. A minimum of 50 percent of the open space must be contiguous to the street frontage abutting the zoning lot;
 - ~~(B)~~ (B) Any parking floor in the 10 feet adjacent to the property line must not be more than four feet above existing grade; and
 - ~~(C)~~ (C) Landscaping required under Section 21-4.70 is provided and maintained.
 - ~~[(3)]~~ (2) Height Setbacks. In the AMX-2 and AMX-3 districts, for any portion of a structure over 40 feet in height, additional side and rear setbacks must be provided as follows:
 - (A) For each 10 feet of additional height or portion thereof, an additional one-foot setback must be provided; and
 - (B) The additional setback must be a continuous plane from the top of the structure to the height of 40 feet above grade (see Figure 21-3.3).
 - ~~[(4)]~~ (3) Commercial Use Density and Location.



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- (A) The floor area of any use marked with a superscript under Table 21-3, either occurring as a single use on a zoning lot or in combination with other uses, ~~[cannot]~~ must not exceed the FAR as provided under Table 21-3.3, and such floor area will be counted as part of the total FAR allowed.

- (B) Where ~~[these]~~ commercial uses are integrated with dwelling uses, pedestrian access to the dwellings must be physically, mechanically, or technologically independent from other uses and must be designed to enhance privacy for residents and their guests. No floor above the ground floor may be used for both dwelling and commercial purposes."

SECTION 8. Section 21-4.30, Revised Ordinances of Honolulu 1990 ("Yards and Street Setbacks"), is amended by amending subsection (d) to read as follows:

"(d) Parking and loading ~~[shall not be]~~ are not allowed in any required yard, except ~~[parking and loading in front and side yards in agricultural, country and residential districts and as provided under Section 21-6.70, which allows parking spaces to overlap required front and side yards by three feet if wheel stops are installed, and Section 21-6.130(f) which allows loading if replacement open space is provided]~~ as provided in Article 6."

SECTION 9. Section 21-4.70, Revised Ordinances of Honolulu 1990, is amended to read as follows:

"Sec. 21-4.70 Landscaping and screening.

Parking lots, automobile service stations, ~~[service and loading spaces,]~~ trash enclosures, utility substations, and rooftop machinery ~~[shall]~~ must be landscaped or screened in all zoning districts as ~~[follows:]~~ set forth below.

~~[(a) — Parking lots of five or more spaces and automobile service stations shall provide a minimum five-foot landscape strip adjacent to any adjoining street right-of-way. This five-foot strip shall contain a continuous screening hedge not less than 36 inches in height with plantings no more than 18 inches on center. If the landscape strip is wider than five feet, the hedge may be placed elsewhere in the strip. A minimum 36-inch-high wall or fence may be placed behind the setback line in lieu of a hedge. If a wall or solid fence is erected, either a vine or shrub shall be planted at the base of the wall or solid fence on the side fronting the property line. One canopy form tree a minimum of two-inch caliper shall be~~



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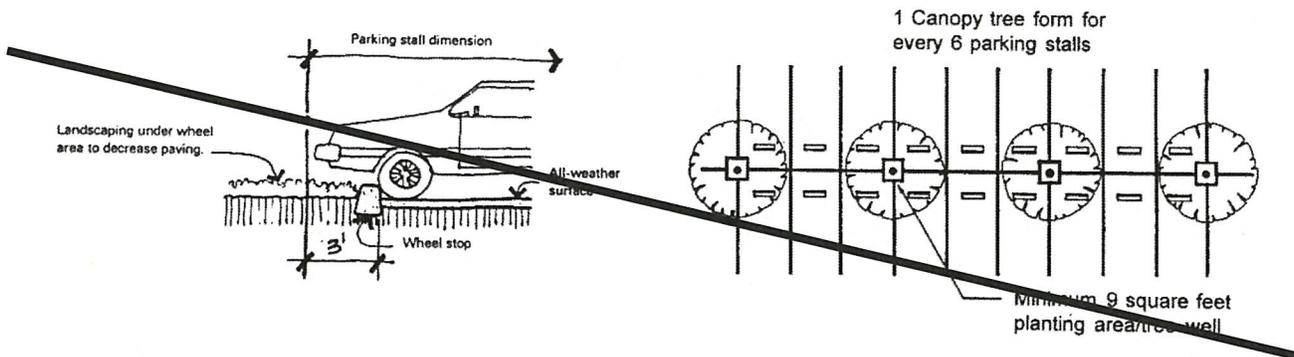
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planted in the landscape strip for each 50 feet or major fraction of adjacent lineal street frontage.

- (b) To provide shade in open parking lots and minimize visibility of paved surfaces, parking lots with more than 10 parking stalls shall provide one canopy form tree a minimum of two-inch caliper for every six parking stalls or major fraction thereof, or one canopy form tree of six-inch caliper or more for every 12 parking stalls or major fraction thereof. Each tree shall be located in a planting area and/or tree well no less than nine square feet in area. If wheel stops are provided, continuous planting areas with low ground cover, and tree wells with trees centered at the corner of parking stalls may be located within the three-foot overhang space of parking stalls. Hedges and other landscape elements, including planter boxes over six inches in height, are not permitted within the overhang space of the parking stalls. Trees shall be sited so as to evenly distribute shade throughout the parking lot (see Figure 21-4.4).

~~Figure 21-4.4~~
~~PARKING LOT LANDSCAPING~~



- (c) Parking structures with open or partially open perimeter walls which are adjacent to zoning lots with side or rear yard requirements shall meet the following requirements:
 - (1) An 18-inch landscaping strip along the abutting property line shall be provided. This strip shall consist of landscaping a minimum of 42 inches in height. A solid wall 42 inches in height may be substituted for this requirement.



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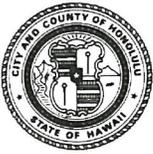
- (2) ~~A minimum two-inch caliper tree shall be planted for every 50 linear feet of building length, abutting a required yard.~~
- (3) ~~Each parking deck along the abutting property line shall have a perimeter wall at least two feet in height to screen vehicular lights otherwise cast onto adjacent property.]~~
- (a) Parking lots and structures must be landscaped as required in Sections 21-6.80 and 21-6.90.
- ~~(d)~~(b) All outdoor trash storage areas, except those for one-family or two-family dwelling use, ~~[shall]~~ must be screened on a minimum of three sides by a wall or hedge at least six feet in height. The wall ~~[shall]~~ must be painted, surfaced, or otherwise treated to blend with the development it serves. All trash storage areas must be curbed or graded to prevent runoff from reaching storm drains or surface water.
- ~~(e)~~ All service areas and loading spaces shall be screened from adjoining lots in country, residential, apartment and apartment mixed use districts by a wall six feet in height.
- ~~(f)~~(c) Within the country, residential, apartment, apartment mixed use, and resort districts, utility substations, other than individual transformers, ~~[shall]~~ must be enclosed by a solid wall or a fence with a screening hedge a minimum of five feet in height, except for necessary openings for access. Transformer vaults for underground utilities and similar uses ~~[shall]~~ must be enclosed by a landscape hedge, except for access openings.
- ~~(g)~~(d) All plant material and landscaping ~~[shall]~~ must be provided with a permanent irrigation system.
- ~~(h)~~(e) All rooftop machinery and equipment, except for solar panels, antennas, plumbing vent pipes, ventilators, and guardrails, ~~[shall]~~ must be screened from view from all directions, including from above^[-]; provided that screening from above ~~[shall not be]~~ is not required for any machinery or equipment whose function would be impaired by ~~[such]~~ the screening. Rooftop machinery and equipment in the strictly industrial districts and on structures or portions of structures less than 150 feet in height ~~[shall]~~ will be exempt from this subsection."



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SECTION 10. Section 21-4.110, Revised Ordinances of Honolulu 1990 ("Nonconformities"), is amended by amending subsections (d) and (e) to read as follows:

- (d) Nonconforming Dwelling Units. With the exception of ohana dwelling units, which are subject to the provisions of Section ~~[21-2.140-1(i);]~~ 21-2.140-1(h), nonconforming dwelling units are subject to the following provisions:
- (1) A nonconforming dwelling unit may be altered, enlarged, repaired, extended or moved, provided that all other provisions of this chapter are met~~[-];~~;
 - (2) If a nonconforming dwelling unit is destroyed by any means to an extent of more than 50 percent of its replacement cost at the time of destruction, it cannot be reconstructed~~[-]; and~~
 - (3) When detached dwellings constructed on a zoning lot prior to January 1, 1950 exceed the maximum number of dwelling units currently permitted, they will be deemed nonconforming dwelling units.
- (e) Nonconforming Parking and Loading. Nonconforming parking and loading may be continued, subject to the following provisions:
- (1) If there is a change in use to a use with a higher parking or loading standard, the new use shall meet the off-street parking and loading requirements established in Article 6~~[-];~~;
 - (2) Any use that adds floor area shall provide off street parking and loading for the addition as required by Article 6. Expansion of an individual dwelling unit that results in a total floor area of no more than 2,500 square feet shall be exempt from this requirement~~[-];~~;
 - (3) ~~[(A)]~~ When nonconforming parking or loading is reconfigured, the reconfiguration shall meet current requirements for arrangement of parking spaces, dimensions, aisles, and, if applicable, ratio of compact to standard ~~[stalls]~~ spaces, except as provided in ~~[paragraph (B).]~~ subdivision 4. If, as a result of the reconfiguration, the number of spaces is increased by five or more, landscaping shall be provided as required in ~~[Section 21-4.70 based on the number of added stalls, not on the entire parking area.]~~ Sections 21-6.80 and 21-6.90; and



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~~[(B)](4)~~ Parking lots and other uses and structures with an approved parking plan on file with the department prior to ~~[the effective date of this ordinance,]~~ May 10, 1999, and which include compact parking spaces as approved in the plan, may retain up to the existing number of compact spaces when parking is reconfigured.

SECTION 11. Section 21-5.40, Revised Ordinances of Honolulu 1990, is amended to read as follows:

"Sec. 21-5.40 Amusement facilities—Outdoor.

(a) Traffic lanes ~~[shall]~~ must be provided for adequate ingress and egress to and from the project in accordance with the specifications and approvals of the state department of transportation.

~~[(b)]~~ Off-street parking or storage lanes for waiting patrons of a drive-in theater shall be available to accommodate not less than 30 percent of the vehicular capacity of the theater. However, if at least six entrance lanes are provided, each with a ticket dispenser, then the amount may be reduced to 10 percent of the vehicular capacity.

~~[(e)](b)~~ All structures and major activity areas ~~[shall]~~ must be set back a minimum of 25 feet from adjoining lots in the country, residential, apartment, or apartment mixed use districts. ~~[This]~~ The director may waive this requirement ~~[may be waived by the director]~~ if topography makes ~~[such a]~~ the buffer unnecessary. Additional protection may be required along property lines through the use of landscaping, berms ~~[and/or]~~, or solid walls.

~~[(d)](c)~~ For motorized outdoor amusement facilities, additional noise mitigation measures may be required."

SECTION 12. Section 21-5.390, Revised Ordinances of Honolulu 1990, is amended to read as follows:

"Sec. 21-5.390 Joint use of parking and loading facilities.

~~[(a)]~~ Joint use of private off-street parking facilities in satisfaction of appropriate portions of off-street parking or loading area requirements may be allowed, provided the requirements of the following subsections are met.

~~(b)~~ The distance of the entrance to the parking or loading facility from the nearest principal entrance of the establishment or establishments involved in such joint use cannot exceed 400 feet by normal pedestrian routes.



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- ~~(c) — The amount of off-street parking or loading area may be credited against the requirements for the use or uses involved cannot exceed the number of spaces reasonably anticipated to be available during differing periods of peak demand.~~
- ~~(d) — All parties involved with a joint parking or loading facility shall execute a written agreement assuring continued availability of the number of spaces at the periods indicated, and file a certified copy with the department. In these cases, no change in use or new construction will be permitted if the change increases the requirements for off-street parking or loading area space unless the required additional space is provided. The agreement will be subject to the approval of the corporation counsel.~~
- ~~(e) — When joint parking or loading facilities serving eating or drinking establishments adjoin a zoning lot in a residential, apartment, or apartment mixed use district, the director shall require a solid fence or wall six feet in height to be erected and maintained on the common property line. The director may modify the requirements of this subsection if warranted by topography.]~~
- (a) Requirements for the joint use of parking and loading facilities are set forth in Sections 21-6.80 and 21-6.90.
- (b) A conditional use permit, minor, is required for off-site joint use of parking and loading facilities."

SECTION 13. Section 21-5.480, Revised Ordinances of Honolulu 1990, as amended in SECTION 10 of Ordinance 17-55, is amended to read as follows:

"Sec. 21-5.480 Off-site vehicular, bicycle parking, or loading facilities.

- ~~[(a) — The distance of the entrance to the vehicular parking facility from the nearest principal entrance of the establishment or establishments involved cannot exceed 400 feet by customary pedestrian routes. The distance of the entrance to the bicycle parking facility from the nearest principal entrance of the establishment or establishments involved cannot exceed 200 feet by customary pedestrian routes.~~
- ~~(b) — If the off-site vehicular or bicycle parking is necessary to meet minimum parking requirements, a written agreement assuring continued availability of the number of spaces indicated must be drawn and executed, and a certified copy of the agreement must be filed with the director. The agreement must stipulate that if such space is not maintained, or space acceptable to the director substituted, the use, or such portion of the use as is deficient in number of parking spaces, must be discontinued. The agreement will be subject to the approval of the corporation counsel.~~



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~~(c) In the apartment, apartment mixed use, and resort zoning districts, there shall be no minimum lot area, width or depth for off-site parking facilities.]~~

(a) Requirements for off-site facilities for vehicular parking, loading areas, and bicycle parking are as set forth in Article 6.

(b) A conditional use permit, minor, is required for off-site facilities for vehicular parking facilities, loading areas, and bicycle parking."

SECTION 14. Section 21-9.60-7, Revised Ordinances of Honolulu 1990 ("Mauka precinct development standards"), is amended by amending subsection (d) to read as follows:

"(d) Permitted Uses. ~~[(1)]~~ In addition to required entryways, ground level spaces should be used for uses ~~[which]~~ that contribute to a vital streetscape. Appropriate uses include ~~[retail-commercial]~~ but are not limited to commercial retail and light manufacturing.

~~[(2) Parking may be located on any level within a block's interior.]"~~

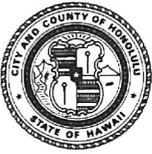
SECTION 15. Section 21-9.60-9, Revised Ordinances of Honolulu 1990 ("Historic core precinct development standards"), is amended by amending subsections (e) and (f) to read as follows:

~~[(e) Parking Exemption. Dwelling units within the 40-foot height limit shall be exempt from off-street parking requirements.~~

~~(f)](e) Design Guidelines. All street facades [shall] must meet the requirements of Section 21-9.60-12[~~, street facade guidelines~~]."~~

SECTION 16. Section 21-9.60-11, Revised Ordinances of Honolulu 1990 ("Historic core precinct development standards"), is amended by amending subsection (d) to read as follows:

"(d) Permitted Uses. ~~[(1)]~~ In addition to required entryways, ground level spaces should be used for uses ~~[which]~~ that contribute to a vital streetscape. Appropriate uses include but are not limited to commercial retail ~~[shops]~~, community centers, and light manufacturing. Lower levels other than the ground level should be used for residential, office, or ~~[other]~~ commercial uses.



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~~[(2) — Parking may be located on any level within a block's interior and fronting Nimitz Highway.]~~"

SECTION 17. Section 21-9.80-4, Revised Ordinances of Honolulu 1990 ("General requirements and design controls"), as amended in SECTION 2 of Ordinance 18-19, is amended by:

1. Amending subsection (c) to read as follows:

"(c) Design Guidelines.

- (1) General Guidelines. All structures, open spaces, landscape elements, and other improvements within the district must conform to the guidelines ~~[specified on the]~~ for urban design controls ~~[marked]~~ specified in Exhibit 21-9.15~~[, set out at the end of this article,]~~; the design standards ~~[contained in]~~ of this section; and other design guidelines ~~[promulgated]~~ adopted by the director to further define and implement these guidelines and standards.
- (2) Yards. Yard requirements will be as ~~[enumerated]~~ provided under the development standards for the ~~[appropriate]~~ underlying zoning precinct under Table 21-9.6(B).
- (3) Car Rental Establishments. Car rental establishments must comply with the following requirements:
 - (A) ~~[A minimum side]~~ Side and rear ~~[yard]~~ yards must be a minimum of five feet ~~[will be required]~~; with a solid fence or wall at least six feet in height on the property line ~~[with]~~, and the required yard substantially landscaped with planting and maintained~~[,]~~;
 - (B) The car rental establishment must be illuminated so that no unshielded, unreflected, or undiffused light source is visible from any public area or private property immediately adjacent to the establishment~~[,]~~;
 - (C) All areas not landscaped must be provided with an all-weather surface~~[,]~~; and
 - (D) No water produced by activities on the zoning lot ~~[will be permitted to]~~ may fall upon or drain across public streets or sidewalks.



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- (4) Utility Installations. Except for antennas, utility installations must be designed and installed in an aesthetic manner so as to hide or screen wires and equipment completely from view, including views from above; provided that any antenna located at a height of 40 feet or less from existing grade should take full advantage of stealth technologies in order to be adequately screened from view at ground level without adversely affecting operational capabilities.
- (5) Building Materials. Selection and use of building materials should contribute to a Hawaiian sense of place through the use of subdued and natural materials, such as plaster finishes, textured concrete, stone, wood, and limited use of color-coated metal. Freestanding walls and fences should be composed of moss rock, stucco-finished masonry, or architectural concrete whenever possible. Colors and finishes should be characterized as being absorptive rather than reflective. The use of shiny metal or reflective surfaces, including paints and smooth or plastic-like surfaces, should be avoided.
- (6) Building Scale, Features and Articulation. Project designs should provide a human scale at ground level. Buildings composed of stepped forms are preferred. Articulated facades are encouraged to break up building bulk. Use of the following building features is encouraged: sunshades; canopies; eaves; lanais; hip-form roofs for low-rise, freestanding buildings; recessed windows; projecting eyebrows; and architectural elements that promote a Hawaiian sense of place.
- (7) Exterior Building Colors. Project colors should contribute to a tropical resort destination. They should complement or blend with surrounding colors, rather than call attention to the structure. Principal colors, particularly for high-rise towers, should be of neutral tones with more vibrant colors relegated to accent work. Highly reflective colors are not permitted.
- (8) Ground Level Features
 - (A) Within a development, attention should be given to pedestrian-oriented ground level features. A close indoor-outdoor relationship should be promoted. Design priority should include the visual links through a development connecting the sidewalk and other public areas with on-site open spaces, mountains, and the ocean.



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- (B) Building facades at the ground level along open spaces and major streets (including Kalakaua Avenue, Kuhio Avenue, Kapahulu Avenue, Ala Wai Boulevard and Ala Moana Boulevard) must be devoted to open lobbies, arcade entrances, ~~[and]~~ display windows, and ~~[to]~~ permitted outdoor dining ~~[where it is permitted]~~ areas.
- (C) Where commercial uses are located at ground level, other than as required by paragraph (B), at least one-half of the total length of the building facade along streets must be devoted to open lobbies, arcade entrances, display windows, and permitted outdoor dining ~~[where permitted]~~ areas.
- (D) The street facades of ground level hotel lobbies should include wide, open entryways. Ventilation in these lobbies should primarily depend on natural air circulation.
- (E) Where buildings are situated between a street and the shoreline, or between a street and open spaces, ground level lobbies, arcades, and pedestrian ways should be provided to create visual links between the street and the shoreline or open space.
- (F) Where blank walls ~~[must]~~ necessarily front a street or open space, they must be screened with heavy landscaping or appropriately articulated exterior surfaces.
- ~~[(G)]~~ ~~Ground level parking facilities should not be located along any street, park, beachfront, public sidewalk or pedestrian way. Where the site plan precludes any other location, the garage may front these areas provided landscaping is provided for screening. Principal landscaping must include trees, and secondary landscape elements may include tall hedges and earth berms.~~
- ~~(H)]~~(G) For purposes of the Waikiki special district, an "open lobby" means a ground-floor lobby that is not enclosed along the entire length of at least two of its sides or 50 percent of its perimeter, whichever is greater, and that provides adequate breezeways and views to interior or prominent open spaces, intersecting streets, gateways, or significant pedestrian ways.
- (9) Outdoor Lighting. Outdoor lighting must be subdued or shielded so as to prevent glare and light spillage onto surrounding properties and public rights-of-way. Outdoor lighting ~~[cannot]~~ must not be used to attract



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attention to structures, uses, or activities; provided~~[, however,]~~ that indirect illumination that is integrated with the architectural design of a building may be allowed when it is utilized to highlight and accentuate exterior building facades, and architectural or ground level features. Rotating, revolving, moving, flashing, ~~[and]~~ or flickering lights ~~[cannot]~~ must not be visible to the public, except lighting installed by a public agency for traffic safety purposes or temporary lighting related to holiday displays.

2. Amending subsection (h) to read as follows:

- (h) ~~Parking. [Off-street parking shall be provided in accordance with Article 6 and Table 21-6.3. Notwithstanding the foregoing, ground floor and basement uses, other than dwelling uses, and retail establishments and eating establishments on lots less than 10,000 square feet in area, in the Waikiki special district shall be exempt from off-street parking requirements.]~~ Off-street parking must be provided in accordance with Article 6."

SECTION 18. Section 21-9.100-5, Revised Ordinances of Honolulu 1990 ("Interim planned development-transit (IPD-T) projects"), is amended by amending subsection (d) to read as follows:

- "(d) Site Development and Design Standards. The standards set forth ~~[by]~~ in this subsection are general requirements for IPD-T projects. When, in the subdivisions below, the standards are stated to be subject to modification or reduction, the modification or reduction must be for the purpose of accomplishing a project design consistent with the goals and objectives of Section 21-9.100-4 and this subsection. ~~[Also,]~~ In addition, pursuant to subsection ~~[b,]~~ (b), the modification or reduction in the following standards must commensurate with the contributions provided in the project plan, and the project must be generally consistent with the draft or approved neighborhood TOD plan for the area, unless otherwise specified below.

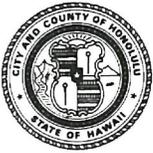
(1) Density.

- (A) The maximum floor area ratio (FAR) may be up to twice that allowed by the underlying zoning district or 7.5, whichever is lower; provided that where a draft or approved neighborhood TOD plan identifies greater density for the site, a project on that site must be consistent with the specified density contained in the plan and may be considered for that density;



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- (B) For public housing projects as defined in Section 21-9.100-5, the FAR cannot exceed 7.5; provided that if the maximum FAR under the draft or approved neighborhood TOD plan is greater than 7.5, then the [~~draft or approved TOD~~] FAR specified in the plan will prevail; and
 - (C) For lots in the B-2, BMX-3, BMX-4, and IMX-1 districts, the maximum increase will apply in addition to any eligible density bonuses for the underlying zoning district; that is, the increase will apply to the zoning lot plus any applicable floor area bonuses.
- (2) Height.
- (A) For project sites where there is no draft neighborhood TOD plan, the maximum building height may be up to twice that allowed by the underlying zoning district, or 450 feet, whichever is lower; and
 - (B) Where there is a draft or approved neighborhood TOD plan, the maximum height cannot exceed the maximum height specified in the plan; provided that where existing height limits exceed those in the [~~plans~~] plan, the existing height limit will prevail.
 - (C) For public housing projects as defined in Section 21-9.100-5, the maximum building height may be up to 400 feet unless the maximum height specified in the draft or approved neighborhood TOD plan is higher, in which case the maximum height specified in the [~~TOD~~] plan will prevail.
- (3) Transitional height or street setbacks may be modified where adjacent uses and street character will not be adversely affected.
- (4) Buildable Area. Yards and the maximum building area must be as specified by the approved conceptual project plan; provided that building placement will not cause adverse noise, privacy, or wind effects to adjacent uses, and street character will not be adversely affected.
- (5) Open Space.
- (A) Project open space will be as specified in the approved conceptual project plan, with a preference for publicly accessible, highly usable parks and gathering spaces rather than buffering or unusable landscaped areas.



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- (B) Where appropriate, usable open space may be:
- (i) Transferred to another accessible site within the vicinity of the project that will be utilized as a public park, plaza, or gathering place for the affected community; or
 - (ii) Provided in the form of connections or improvements, or both, to nearby open spaces, pedestrian ways, or trails, ~~[such as, but not necessarily]~~ including but not limited to, streetscape and intersection improvements, pedestrian walkways or bridges, arcades, or promenades;
- or both subparagraphs (i) and (ii).
- (6) Landscaping and screening standards will be as specified in the approved conceptual project plan and project landscaping must include adjacent rights-of-way. Streetscape landscaping, including street trees or planting strips, should be provided near the edge of the street, rather than adjacent to the building, unless infeasible.
- (7) Parking and loading ~~[standards are as follows:~~
- ~~(A) The number of parking and loading spaces provided will be as specified in the approved conceptual project plan;~~
 - ~~(B) Service areas and loading spaces must be located at the side or rear of the site, unless the size and configuration of the lot renders this infeasible;~~
 - ~~(C) Vehicular access must be provided from an existing access or driveway, or from a secondary street whenever possible and placed in the location least likely to impede pedestrian circulation; and~~
 - ~~(D) The provision of car sharing programs and vehicle charging stations is encouraged.]~~ must be provided in accordance with Article 6.
- (8) Bicycle parking ~~[shall]~~ must be accommodated on the project site~~[, subject to the following:~~



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- (A) ~~The number of bicycle parking spaces provided will be as specified in the approved conceptual project plan;~~
- (B) ~~Long-term bicycle parking must be provided for residents of on-site dwelling units in the form of enclosed bicycle lockers or easily accessible, secure and covered bicycled storage;~~
- (C) ~~Bicycle parking within enclosed parking structures must be located as close as is feasible to an entrance of the facility so that it is visible from the street or sidewalk. The provision of the fenced and gated area for secure bicycle parking within the structure is encouraged;~~
- (D) ~~Each bicycle parking space must be a minimum of 15 inches in width and six feet in length, with at least five feet of clearance between bicycle and vehicle parking spaces. Each bicycle must be easily reached and movable without moving another bicycle; and~~
- (E) ~~The provision of space for bicycle-sharing stations is encouraged either on the exterior of the building or within a parking structure, provided the area is visible and accessible from the street.] in accordance with Article 6."~~
- (9) Signs.
- (A) Sign standards and requirements will be as specified in the approved conceptual project plan. The sign standards and requirements may deviate from the strict sign regulations of this chapter; provided that the flexibility is used to achieve good design, compatibility, creativity, consistency, and continuity in the utilization of signs on a pedestrian scale;
- (B) All projects must include appropriate measures to accommodate TOD-related way-finding signage that will be considered "public signs" for purposes of Article 7; and
- (C) Where signage is not otherwise specified by the approved conceptual plan for the project, the project signage must comply with the underlying sign regulations of this chapter."



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SECTION 19. Section 21-9.100-8, Revised Ordinances of Honolulu 1990, as enacted in SECTION 10 of Ordinance 17-54 ("General requirements and development standards"), is amended by amending subsection (c) to read as follows:

(c) ~~[Vehicle Parking, Loading, and Bicycle Parking.~~

~~(1) Number and location of off-street parking spaces.~~

~~(A) There are no minimum parking requirements for non-residential uses.~~

~~(B) The minimum parking requirement for residential dwelling units is as follows:~~

Off-Street Parking Requirements for Dwelling or Lodging Units	
Floor area of unit	Requirement
300 sq. ft. or less	0
301 – 600 sq. ft.	0.5
601 – 800 sq. ft.	0.75
Over 800 sq. ft.	1

~~(C) The parking requirements may be reduced through a special district permit where the following conclusions can be made:~~

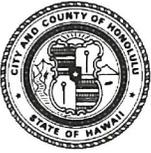
~~(i) The application demonstrates how the anticipated transportation demand of the future residents and users of the project site will be accommodated; and~~

~~(ii) A parking and transportation demand analysis demonstrates that a modification of the parking requirements will not be detrimental to the surrounding neighborhood. The analysis must include: (1) an inventory of all on- and off-street parking spaces within the vicinity of the project site; (2) a survey of current and anticipated parking space utilization; and (3) a survey of the current and anticipated use of other modes of transportation. The analysis should also consider strategies such as shared parking agreements, bicycle facilities, bicycle sharing stations, car sharing, and improved pedestrian mobility.~~



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- ~~(2) At-grade parking spaces and parking on the ground floor of any structure cannot be located within 40 feet of any front property line. See Figures 21-9.8 and 21-9.9. Exceptions may be granted with the approval of a special district permit if the director finds that:
 - ~~(A) Buildings are built as close as possible to the public sidewalk; and~~
 - ~~(B) The site is small and constrained such that underground, structured, and surface parking located more than 40 feet from the street frontage cannot be accommodated.~~~~
- ~~(3) Service areas and loading spaces must be located at the side or rear of the site. This requirement may be modified through a special district permit if the director finds that the size and configuration of the lot make such a requirement infeasible.~~
- ~~(4) Vehicular access must be provided from a secondary street wherever possible and located where it is least likely to impede pedestrian circulation, as approved by the appropriate agencies.~~
- ~~(5) The ground floor of parking structures on all streets must be designed and used for active ground floor activities within 40 feet of the front property line.~~
- ~~(6) Bicycle Parking.
 - ~~(A) A covered, single-story, stand-alone bicycle parking structure will not be considered floor area for the purposes of FAR calculation.~~
 - ~~(B) Bicycle parking within enclosed parking structures must be located as close as is feasible to an entrance of the facility so that it is visible from the street or sidewalk. Where the bicycle parking is not visible from the front entrance, signage indicating the location of bicycle parking must be utilized. The provision of a fenced and gated area for secure bicycle parking within the structure is encouraged.~~
 - ~~(C) The bicycle parking standards in Section 21-6.150 may be modified through a special district permit if the director finds that there is adequate bicycle parking in the immediate vicinity, including, but not limited to, public bicycle parking in the right-of-way or private bicycle parking on nearby lots, if such parking is both perpetually~~~~



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~~accessible to the users of the project location, and designed in such a way that pedestrians and cyclists can easily recognize the availability of the bicycle parking.]~~ Vehicle parking, loading, and bicycle parking must conform to the provisions set forth in Article 6."

SECTION 20. Section 21-10.1, Revised Ordinances of Honolulu 1990 ("Definitions"), is amended to add definitions of "Active floor area," "Bicycle sharing," "Car sharing," "Car sharing spaces," "Electric ready," "Mechanical parking system," and "Shared parking" to read as follows:

"Active floor area" means useable enclosed or partially enclosed spaces designed for activities that will activate buildings to create an engaging and human-centric environment. Active uses include but are not limited to retail establishments, restaurants, personal service establishments, offices, financial institutions, hotel or multifamily dwelling uses, galleries, theaters, and other similar uses and activities, as permitted in the underlying zoning district. Active floor area on the ground floor must include a principal entrance and window(s). Active floor area above the ground floor must include windows or lanais. Active floor area does not include areas for parking and loading.

"Bicycle sharing" refers to non-rental bicycles that are shared by multiple users at one location, typically for short trips by employees, guests, or residents of a multifamily dwelling.

"Car sharing" is a form of vehicle rental where users rent a vehicle for short periods of time. The owners of the cars may be a company, an association, or an individual. Offices intended to attract or register customers are not permitted as an accessory use to car sharing. Car sharing facilities with an office or administrative services are considered as automobile rentals.

"Car sharing spaces" means parking spaces dedicated for use by car sharing vehicles.

"Electric ready" describes a parking space that is prepared in advance for future use as an electrical charging station for electric vehicles. To be electric ready, electrical conduits must to be in place with lines to the electrical supply of the structure. The actual wiring and installations of charging equipment or receptacles may be installed at a future date when demand for electrical charging stations arise.

"Mechanical parking system" means a mechanism with vertical or horizontal transport capability that provides for automobile storage or retrieval, and refers to systems that are either manually operated, such as a mechanism that lifts and lowers



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HONOLULU, HAWAII

ORDINANCE _____

BILL _____

A BILL FOR AN ORDINANCE

one or more cars within one parking space, or autonomously operated, such as a multi-level robotic garage, sometimes referred to as automated parking systems or APS.

"Shared parking" means a technique involving the joint use of parking used to reduce parking requirements in mixed use developments or facilities. Peak parking demand times for proposed or existing uses are calculated, and a reduction of parking space requirements is justified when the peak parking demand times occur at different times of the day."

SECTION 21. In Sections 3 through 20 of this ordinance, ordinance material to be repealed is bracketed or stricken and new ordinance material is underscored. When revising, compiling, or printing this ordinance for inclusion in the Revised Ordinances of Honolulu, the Revisor of Ordinances need not include the brackets, the material that has been bracketed and stricken, or the underscoring.



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HONOLULU, HAWAII

ORDINANCE _____

BILL _____

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SECTION 22. This ordinance takes effect upon its approval.

INTRODUCED BY:

DATE OF INTRODUCTION:

Honolulu, Hawaii

Councilmembers

APPROVED AS TO FORM AND LEGALITY:

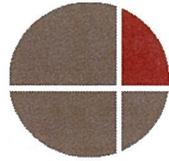
Deputy Corporation Counsel

APPROVED this _____ day of _____, 20 _____.

KIRK CALDWELL, Mayor
City and County of Honolulu



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on community design

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DOVER, KOHL & PARTNERS
town planning

Technical Memorandum: Contextual Assessment

Off-Street Parking & Loading Sections
Land Use Ordinance for City & County of Honolulu, Hawaii

November 16, 2018

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Background

This is the first of three technical memoranda being prepared by affiliates of the Governors Institute on Community Design (GICD), intended to provide context and support to the City and County of Honolulu for updating parking-related sections of its Land Use Ordinance (LUO). The three technical memoranda are as follows:

1. **Technical Memorandum I: Contextual Assessment of Existing Ordinance** – This memorandum provides a review of the sections of the Land Use Ordinance (LUO) that impact parking and loading, as well as other relevant policies, land use plans and recent findings associated with the outreach conducted in Phase One of the LUO Update. The memorandum also includes a review of existing research documents and other literature related to industry standards and emerging trends that influence parking and a summary of the GICD Team’s initial conclusions of the current state of off-street parking regulations.
2. **Technical Memorandum II: Assessment of Available Data Sets** – In drafting this memorandum, the GICD will review all available data sets on the supply of and demand for off-street parking in Honolulu, both currently and as shown in trends over time. The memorandum will summarize our conclusions, based on this analysis, and identify for City staff future data collection opportunities that would, over time, enable them to better calibrate parking regulations to changes in demand, due to changes in demography, economics, and technology.
3. **Technical Memorandum III: Review of Best Practice Examples** – The GICD Team will review exemplary off-street parking and other related ordinances from communities comparable to Honolulu, along with related research, and document best practices for regulations that support effective transportation demand management (TDM). The memorandum will also compare Honolulu’s off-street parking trends and existing policies to current and future trends across the country and, particularly, in these comparable communities.

The GICD Team will also lead an on-site stakeholder engagement effort before making final recommendations to the City and County of Honolulu in Spring of 2019.

Initial Findings

Honolulu’s LUO establishes parking design standards and minimum parking requirements by land use and development type. Although Article 6 of the LUO clearly states that, “Parking standards are not intended to satisfy maximum parking demand,” this appears, in practice, to be one of the regulations’ main functions. Minimum parking requirements were originally conceived to ensure that developers provide enough on-site parking to accommodate increasing use of automobiles and to prevent spillover parking onto streets and nearby facilities. While these continue to be common concerns in many places, minimum parking requirements are increasingly recognized as an oversimplified approach to parking regulation. For example, excessive minimum parking requirements have been found to increase development costs and discourage urban development (1) while exacerbating traffic and its related impacts (2).

To a limited extent, Honolulu’s parking regulations have been updated to some extent. For example in 1999, land use definitions were streamlined and requirements were lowered for several uses; and in 2009, provisions for transit-oriented development (TOD) were introduced. However, it appears that even these updates don’t appear to be in line with many of the City/County’s current plans, goals or needs. The current LUO update

project provides a unique opportunity to bring modernize these regulations up to date with current policy in a more comprehensive manner.

Throughout this project, the Team will review available data and best practices in order to propose updates to the existing standards that will support Honolulu's vision and goals. In our initial review of the current regulations and related documents (summarized in Appendix A) and our knowledge of related research (described in the following section), we reached several initial findings:

- Like many cities in the U.S., Honolulu's current parking requirements are highly specific with regard to different land uses (e.g., one stall per four skaters of a skating rink's maximum capacity or one per 1,500 square feet of skating surface, whichever is greater), but are not necessarily informed by current data or recent research about actual demand or factors influencing demand.
- Due to the importance of factors like transportation options, development density and demographics, Honolulu's current parking requirements may be too high for certain uses and locations (as expressed in the Primary Urban Center Development Plan), while developers may exceed the minimum requirements in other locations, rendering them largely ineffective.
- Local and national trends suggest that automobile ownership and use are likely to decrease in the future – at least on a per capita basis – thereby lowering parking demand. In Honolulu, the Oahu General Plan, the Oahu Bike Plan of 2012, the age-friendly action plan of 2015, the proposed car-sharing program, and the high-capacity transit corridor project currently underway all point toward a decline in lower automobile ownership and use. Shifting cultural preferences and new transportation technologies (described below) have already begun lowering parking demand in urban areas across the country and this trend — a trend that is expected to continue.
- It is likely that Honolulu will need to reduce parking to meet some of its other transportation-related goals such as managing traffic, increasing transit ridership, reducing emissions and promoting development that is compact, affordable, conveniently located and fits the historical character of the surrounding neighborhoods. Currently, there are no restrictions on the amount of parking developers may build, other than physical or cost constraints.
- Irregularities in parking prices – i.e. low prices for on-street parking and high prices for off-street parking in downtown Honolulu – may indicate that supply and demand are not optimally managed. Honolulu's parking regulations could be aligned better with other efforts to manage parking demand.
- The current parking regulations, which are dispersed among many sections of the LUO and include dozens of land uses, exceptions and special requirements, could be simplified further to help streamline the development review process. Simplifying the requirements also could eliminate some of the discretionary responsibility left to the director and staff.
- Stakeholders also expressed many of these views during the outreach for Phase One of the LUO update.

Historical Context

Origins of Minimum Parking Requirements

Most American cities adopted some form of parking requirements between 1940 and 1970. During that time, cities typically copied their standards from other nearby early adopters. Groups like the American Planning Association (APA, then ASPO), the Eno Foundation and the Institute of Transportation Engineers (ITE) conducted parking studies during that time, but the earliest formal recommendations, such as those in ITE's 1950 Traffic Engineering Handbook, were based on reviews of existing parking requirements rather than actual parking demand data (3).

The first major study of parking demand came in 1987 – after many cities had already adopted parking requirements – with the release of ITE's Parking Generation, 2nd Edition. Updated versions were released in 2004 and 2010, but the data in these reports overwhelmingly represent suburban locations and many land use types are underrepresented.

One recent survey, conducted in Southern California in 2013, found that local governments have increased their use of local parking studies, ITE's Parking Generation and similar guidance in setting minimum parking requirements, but most still rely overwhelmingly on existing standards and surveys of nearby cities. Only 29 percent of cities cited original parking studies in their top three sources of information and only one city out of 41 listed it as their top source (4). This tells us that minimum parking requirements still are not generally rooted in scientific evidence, as they are sometimes believed to be, but based on years of gradual adjustments and the discretion of public officials.

It is not clear from the available documents (listed in Appendix A) how or when Honolulu's current parking requirements were established. A report in 1998 recommended reorganizing the parking requirements and reducing them for seven land uses, based on comparison to existing standards in Denver, Colorado; Lake County, Illinois; Portland, Oregon; and San Bernardino, California. However, only three of those recommended reductions are reflected in the current LUO. These are for car and boat sales (one space per 400 square feet), personal services (one space per 400 square feet), and publishing (one space per 1,500 square feet). The requirements for convenience stores and grocery stores remained at one space per 300 square feet, wholesaling remained at one space per 1,000 square feet, and hotel dwelling units were reduced slightly to one space per unit (compared to the recommendation of 0.75).

Parking Demand in Urban Areas

While no widely accepted parking standards exist for urban areas, recent research suggests urban parking demand in many urbanized areas is much lower than typical standards, regulations and common practices would suggest and that actual demand varies considerably depending on factors like urban density, available transportation options and parking fees.

Recent studies show that residential parking is consistently oversupplied by around 50 percent in metropolitan areas across the U.S. These studies, which looked at parking occupancy during the peak period, revealed the following:

- In the Seattle metropolitan area, residential parking was 69 percent occupied (5). The average parking demand was 0.51 spaces per occupied unit in the central business district and 1.18 in suburban locations.
- In Washington, D.C., residential parking was 60 percent occupied (6). Parking demand varied from 0.17 to 1.13 spaces per occupied unit, with an average value of 0.64.

- In Madison, Wisconsin, residential parking was 67 percent occupied (7). Parking demand varied from zero to 1.4 spaces per occupied housing unit, with an average value of 0.74.
- In the Boston metropolitan area, residential parking was 74 percent occupied (8). The average parking demand ranged from 0.73 to 1.04 in different municipalities. The existing supplies of parking ranged from 57 to 122 percent of the requirements and demand ranged from 40 to 90 percent of the requirements.
- In Chicago, Illinois, residential parking was 56 percent occupied (9). The average parking demand was 0.34 spaces per occupied unit.

These studies generally report that the most important factors affecting parking demand include multimodal accessibility, concentration of population and jobs, building characteristics (e.g. unit size and rent), demographics (e.g. income and household size), parking price and parking supply.

A recent study of five transit-oriented developments (TODs) across the U.S. found that parking demand was anywhere from 19 to 46 percent of demand estimates found in ITE's parking guidelines and the existing parking was anywhere from 58 to 84 percent occupied during the peak period (10).

Another study of six town centers in New England found that parking requirements, supply and demand were lower for traditional, mixed-use sites, compared to more conventional suburban sites with free parking, but all of the town centers had considerable oversupplies of parking (11). Even after accounting for allowable reductions, the conventional sites required 26 percent more parking than the mixed-use sites. The existing parking supply at conventional sites exceeded the requirements by 13 percent and the spaces were only 50 percent occupied during the peak period. The mixed-use sites provided only 71 percent of what was required and the existing spaces were 80 percent occupied. The peak parking demand was 2.3 spaces per 1,000 feet of buildings space at conventional sites and 1.8 spaces at mixed-use sites.

While there is no comprehensive study of parking demand in Honolulu, there is evidence to suggest a similar pattern of existing parking being underused. Residential parking in Waikiki, for example, was found to be just 72 percent occupied, on average, with values ranging from 58 to 81 percent.

Perceived Scarcities

Given the apparent abundance of parking in many urban areas, it may be surprising that perceptions of scarcity are so common, but there are reasonable explanations for those perceptions. For example, visitors typically expect to park as close to their destination as possible, often within sight distance. They also expect not to wait and they prefer to pay as little as possible (12). Meeting all these expectations can be especially challenging in urban areas, but they can be partly overcome through effective parking management.

Cities like San Francisco have addressed perceived parking scarcity through mechanisms like dynamic pricing – charging more for heavily used parking and offering discounts for less popular parking spaces nearby. Their pilot program raised the price significantly on certain blocks, but led to shorter wait times, fewer parking violations, less traffic and lower parking prices overall (13). The program has since been expanded. Loosening restrictions on underused parking (including privately owned facilities) and imposing stricter regulations on overused parking (including unpaid on-street parking) are other effective strategies for managing perceived shortages.

Cultural and Technological Trends

Recent emerging trends have signaled that future parking demand is likely to decrease, on average. This is due, in part, to municipal efforts to increase multimodal options and manage travel demand, but it also has to do with cultural shifts and new technologies that are mostly outside of municipal control.

In their most recent Community Preference Survey, the National Association of REALTORS found that 80 percent of respondents would choose to live in walkable communities and 45 percent view convenient

alternatives to driving as a high priority (14). While it can be difficult to parse out any lingering effects of the recession on car and home ownership, older and younger generations are both moving toward city centers in larger numbers and many view personal car ownership as less of a necessity than previous generations (15). One study found that 30 percent of Americans and 51 percent of Millennials (approximately age 22 to 37 in 2018) believe cars are not worth the financial investment, signaling a major shift among younger generations (16).

New forms of shared mobility, including transportation network companies (TNCs) like Uber and Lyft, are making this transition easier and have already begun to affect urban parking demand. Ace Parking recently reported that parking demand at hotels has dropped by five to ten percent in San Diego and valet parking has dropped by 25 percent at restaurants and 50 percent at nightclubs (17). Ace reports similar trends among their 750 locations across the U.S.

The introduction of autonomous vehicles (AVs) into the automobile market is expected to accelerate this trend. Researchers modeled the impacts of fully autonomous vehicles on parking demand in Seattle (18). They found that virtually no paid parking facilities would be more than 75 percent occupied as AV market penetration approaches 25 percent, given that the vehicles could more easily search for the most economical options. As AV penetration surpasses 50 percent, they find, the market for parking becomes unsustainable without appropriate parking-demand management policies in place.

Even if parking demand stays constant, however, the ability to stack or bunch AVs and navigate them through smaller spaces means that the area needed for parking could be reduced by anywhere from 40 to 86 percent (19, 20).

Emerging Policy Responses

Recognizing that existing standards often lead to an abundance of parking and other associated consequences such as increased costs and missed opportunities for infill development, many cities have taken alternative approaches to parking regulation. Cities across the country – Madison, Wisconsin; Nashville, Tennessee; Buffalo, New York; and Hartford, Connecticut, to name a few – have eliminated their parking requirements citywide or for large parts of their downtown. Nashville, like other cities, replaced their demand-based requirements with a form-based code that emphasizes the form and location of parking, rather than its quantity.

At least one city – Chandler, Arizona – has moved to reduce its parking requirements specifically because of increased ridesharing and in anticipation of autonomous vehicles, a move that developers reportedly welcome (21).

Taking this approach a step further, cities like Cambridge, Massachusetts have implemented parking maximums in the place of or in addition to their minimum requirements, often as part of transportation demand management (TDM) programs. These policies recognize that excess parking encourages the use of single-occupancy vehicles, even in walkable, bikeable or transit-rich areas (2). To mitigate the potential traffic impacts from new development projects, cities like Seattle, Washington, and San Francisco, California, encourage developers to reduce their parking (along with making other multimodal improvements) to meet their TDM requirements.¹

¹ These programs are outlined in a new report called [Modernizing Mitigation](#), produced by Smart Growth America, the State Smart Transportation Initiative and the Mayors Innovation Project.

Summary and Next Steps

As this review shows, there are many (sometimes conflicting) needs that could be addressed by revising Honolulu's parking regulations. These needs are expressed in various reports, planning documents and public comments. The City and County should consider making these changes to avoid the long-term consequences of misaligned policies.

This technical memorandum provides a useful contextual framework for the GICD Team to move forward with informed recommendations that could meet the needs of the City and County, as we perceive them. The Team's next steps will be to review available data regarding parking supply and demand in Honolulu, document best practices and current research, and engage with local stakeholders to inform those recommendations.

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Appendix: Summary of Relevant Documents

Land Use Ordinance

The current LUO for the City and County of Honolulu (Chapter 21) addresses parking in several ways:

- Article 2. Administration and Enforcement—describes zoning adjustments related to parking.
- Article 3. Establishment of Zoning Districts and Zoning District Regulations—describes setback, height, and floor area ratio (FAR) standards by district, which could affect parking design and developers' ability to meet minimum parking requirements, given spatial constraints.
- Article 4. General Development Standards—describes allowances for non-conforming parking.
- Article 5. Specific Use Development Standards—describes specific parking standards for certain kinds of development.
- Article 6. Off-street Parking and Loading—describes general off-street parking-related standards and minimum parking requirements.
- Article 9. Special District Regulations—describes design standards for special districts, which, like Article 3, could affect parking design and developers' ability to meet minimum parking requirements.

Article 2. Administration and Enforcement

Section 21-2.140 describes the zoning adjustment review process, which allows minor zoning adjustments. These include:

- Carports or garages may encroach into setbacks under certain conditions.
- Loading requirements may be reduced when spaces are jointly used (by up to 50 percent) and for low-rise multifamily dwellings, under certain conditions.
- Parking requirement exemptions may apply if changes in zoning require the addition of parking spaces, under certain conditions.
- Parking requirement exemptions for existing structures being converted to accessory dwelling units (ADUs) under certain conditions.

Article 3. Establishment of Zoning Districts and Zoning District Regulations

Article 3 describes design standards for all districts, except special districts. These design standards include setback, height, and FAR standards, which could affect parking design and developers' ability to meet minimum parking requirements. Parking-specific regulations include:

- In Agricultural clusters (21-3.50-2) and Country clusters (21-3.50-2), parking and loading requirements shall be specified in the approved plan.
- In Apartment districts (21-3.80-1), Apartment mixed use districts (21-3.90-1) and Resort districts (21-3.90-1), parking may extend to side and rear property lines, provided other regulations are met.
- In BMX-4 business mixed-use districts (21-3.120-1), parking should not front streets and should be appropriately screened or landscaped.

Article 4. General Development Standards

Section 21-4.30 precludes parking from setback areas, with minor exceptions.

Section 21-4.70 describes specific landscaping and design standards for parking lots and structures.

Section 21-4.110 stipulates that nonconforming parking may be continued unless a change in land use or floor area necessitates additional parking under Article 6.

Article 5. Specific Use Development Standards

Article 5 describes specific parking standards for specific kinds of development, including:

- Drive-in theaters (21-5.40) – Parking or storage should be provided for waiting patrons (10 to 30 percent of capacity depending on type of entrance).
- Day-care (21-5.80) – Large facilities should provide a pickup and drop-off area.
- Home occupations (21-5.350) – Client parking is required (one space per five clients); guest parking may be used. There should be limited on-street commercial parking.
- Hotels (21-5.360) – Hotels in I-2 and IMX-1 shall provide one space per two units.
- Joint use (21-5.390) – Joint use of parking is allowed, under certain conditions such as peak demand, and with a written agreement.
- Off-site parking (21-5.480) – Off-site parking should be within 400 feet walking distance and a written agreement may be required.
- Grade schools (21-5.590) – Schools exceeding 25 students should provide a pickup and drop-off area. Schools exceeding 50 students should provide a bus bay.
- Special needs elderly housing (21-5610A) – Parking may be reduced to one stall per four units plus one guest stall per 10 units.
- Accessory dwelling units (21-5.720) – One additional space per ADU is required, except for within one-half mile of rail transit.

Article 6. Off-street Parking and Loading

The intent of Article 6 is stated as:

- a) Parking and loading standards are intended to minimize street congestion and traffic hazards, and to provide safe and convenient access to residences, business, and public services and places of public assembly. Parking standards are not intended to satisfy maximum parking demand.
- b) Off-street parking and loading spaces shall be provided in such numbers, at such locations and with such improvements as required by the provisions of this article.

To satisfy this intent, Article 6 describes minimum parking and loading requirements and exceptions, accounting for use, district, and other considerations, as well as parking design standards (e.g., arrangement, minimum dimensions and materials).

Its general parking requirements, described in Table 21-6.1, specify a minimum number of required parking spaces for 37 uses in nine categories, and identifies 10 uses (e.g., game preserves, group living facilities, airports, and other unspecified uses) for which the director must determine the requirement. These requirements range from one space per unit to more than two spaces per unit for dwellings and from one space per 2,000 square feet (self-storage facilities) to one space per 300 square feet for commercial uses. It also includes provisions for other specific uses like three spaces per bowling alley, one space per two washing machines (laundromat), and three spaces per automotive repair stall.

Additional requirements are specified for 21 uses in BMX-4 Central Business Mixed Use (Table 21-6.2) and 10 uses in Waikiki Special District (Table 21-6.3). These requirements are typically lower than the general requirements (e.g., one space per dwelling unit or bowling alley) or they apply only to larger buildings (e.g., one space per 600 square feet for commercial uses over 4,000 square feet).

Exceptions are allowed and special requirements exist for planned development housing projects (see Sec. 21-9.80-4 for parking plan requirements), cluster housing, conditional use permits, and uses within special districts. Assessed public parking facilities in improvement districts are also exempt. Bicycle parking—short- and long-term—is also required for residential and commercial uses in the apartment, apartment mixed-use, business, and business mixed-use districts, except for detached single-family and two-family dwellings and duplex dwellings.

Article 9. Special District Regulations

Article 9 describes design standards for special districts, which are areas in need of restoration, preservation, redevelopment or rejuvenation. Like Article 3, these standards could affect parking design and developers' ability to meet minimum parking requirements. If the regulations conflict with Article 3 for an underlying zoning district, the more restrictive regulation take precedence, except for where TOD Development Regulations apply. Parking-specific regulations include:

- In the Hawaii capital special district (21-9.30-4), parking should be appropriately screened and landscaped.
- In the Historic core of the Chinatown special district (21-9.60-9), dwelling units within the 40-foot height limit shall be exempt from off-street parking requirements.
- In the Makai precinct of the Chinatown special district (21-9.60-11), certain parking structures should have planter boxes and parking may be located on any level within a block's interior. Parking structures should have entrances and exits on Nimitz Highway, when practical.
- In the Waikiki special district (21-9.80-4), Planned Development-Resort (PD-R) and -Apartment (PD-A) Projects must provide a parking and loading management plan that minimizes impacts upon public streets, enhances local traffic circulation, and accommodates anticipated parking and loading demands.
- In the Haleiwa special district (21-9.90-4), parking shall be appropriately screened, landscaped, and located at the side or rear of buildings only.
- In Transit-oriented development (TOD) special districts, which generally includes parcels within 2,000 feet of a transit station (21-9.100-4), parking requirements may be eliminated or reduced, including expanded allowances for shared parking. The number of spaces should be specified in an approved conceptual project plan. The parking management or TDM plan shall support transit ridership and alternative modes and minimize the impacts upon public streets. [See Design Guidelines: TOD Special Districts, in the related documents below.]

Land Use Ordinance Update: Phase 1 (August 2018)

This document describes the LUO update project that is currently underway. Phase 1 involved extensive stakeholder outreach, summarized in Deliverable B.5. A summary of stakeholder comments includes the following:

Article 2

- Clarify the conditional use permit (CUP) (minor) process for off-street parking.

Article 3

- Revise several sections – §21-3.110-1(c)(6-7), §21-3.120-1(c), §21-3.120-2(c)(11), §21-3.130-1(c)(3-4), and §21-3.140-1(c)(4-5) – to include language that sets clearer design standards for landscaping and parking.

Article 4

- Incentivize developers to plant (larger/more) trees. For example, if large trees are provided in parking lots, then one less parking stall may be required.
- Consider allowing grandfathering of existing density, setbacks, parking, etc. to encourage redevelopment of older structures.
- Create incentives (density/height bonuses, expedited permitting, or reduced parking requirements) to developers who provide green infrastructure, permeable pavement, etc.

Article 6

- Reduce, discourage and/or eliminate off-street parking and loading requirements in the urban core or where multi-modal opportunities exist; and/or where alternative vehicle management strategies can be implemented. Strategies include the following:
 - Reduce off-street parking and loading requirements in-lieu of drop of stalls for car/bike share programs, bicycle parking, if near dense, heavily trafficked areas with a high level of transit service, if near established commercial/business corridors, and/or for ADUs, micro-units and affordable housing developments.
 - Establish parking maximums under certain circumstances.
 - Count parking spaces as floor area.
 - Allow for shared parking spaces between different uses that have different hours of operations.
- Include an exemption for providing (less or no) bike parking:
 - In multi-family housing projects, where bicycles could be stored in individual units.
 - If there is an existing Biki station within a short distance from the project.
- Allow vertical stacked long term bicycle parking (on wall or vertical racks) to reduce the amount of square footage required.
- Clarify when off-street parking can be converted to bike parking.
- Re: §21-6.120(a), revise language re: dimensions of loading spaces.
- Re: §21-6.120(a), revise language re: bicycle parking.
- Update automobile parking stall/lot dimensions, to include width specifications for two-way aisles and larger standard parking stall sizes to be current with modern vehicles.
- Developments should accommodate autonomous vehicles (AVs).
- Developments should accommodate for electric vehicle parking, pursuant to HRS 291- 71.
- Allow developers of new subdivisions to provide off-street parking on a separate lot, similar to what DPP currently allows for mail collections, so that parking does not detract from buildable area on smaller lots.
- Exempt elevated photovoltaic (PV) structures from requiring off-street parking and loading.
- Update parking configuration requirements to ensure adequate access to streets.
- Add a section requiring the preparation of transportation demand management (TDM) strategies and transportation impact assessment (TIA) for certain types of developments.
- Include a map of the improvement district boundaries.
- Add new design standards and illustrative diagrams re: placement and treatment of principal pedestrian entries to buildings, on-site parking lots and garages, bicycle facilities and transit (bus) stops adjacent to a property, building facade and roof treatments, for new commercial buildings, retrofit of non-conforming commercial buildings, rural commercial buildings and urban and suburban commercial-zoned buildings.

Article 9

- Allow the market to dictate the required amount of parking for all retail uses in Waikiki and TOD areas.

General Comments

- The LUO should anticipate needs of the future and incorporate technological changes, for example, drone landings, less parking, more loading zones, and automated vehicles.

Non-LUO Related Comments

- Implement a neighborhood parking permit program, where the residents of the neighborhood are required to purchase permits for street parking.

Large Dwellings Bill (proposed July 23, 2018)

Although not yet adopted, this proposed bill would introduce new language to the LUO that allows FAR above 0.6 for one- and two-family detached dwellings, as long as two extra parking spaces above the LUO requirement are provided.

Design Guidelines: TOD Special Districts (June 2018)

This document lays out design guidelines for TOD special districts. It eliminates or greatly reduces residential parking requirements as follows: zero spaces for up to 300 square feet, 0.75 spaces for 601 to 800 square feet, and one space for 801 square feet or more. It also specifies parking placement and requires bike parking.

Report on the Proposed Streamlining Amendments to the LUO (1998)

This 1998 report recommends grouping land uses into general categories for parking requirements. The proposed table lists 33 uses in 10 general categories (p. 6-1; Exhibit 2).

The report also recommends reducing parking requirements for a number of uses (p. 6-2): car and boat sales, convenience stores, hotels, personal services, publishing plants, food sales, and wholesale.

Oahu General Plan (amended October 3, 2002) and Proposed Revised Plan (2017)

The General Plan is a comprehensive statement of Oahu's objectives and policies, which is then translated into eight regional plans and subsequent ordinances and regulations. The proposed revised plan adds an emphasis on sustainability, which includes compact, mixed-use development (including affordable infill development where permitted) and multimodal transportation that reduces dependence on fossil fuels and generates fewer greenhouse gas emissions.

The plan includes many important objectives and policy goals, including several that have some implicit relationship to parking (proposed revisions are shown in brackets):

- IV. Housing [and Communities]
 - Policy A-9 encourages housing for low- and moderate-income households [at higher densities].
 - [Policy A-12 promotes “higher-density, mixed-use development where appropriate, including rail transit-oriented development, to increase the supply of affordable and market homes convenient to jobs, shops and public transit.”]
 - Policy A-13 [14] encourages affordable housing for people who are elderly or disabled [“in locations convenient to critical services and to public transit”]
 - [Policy C-5 supports “mixed-use development and higher density redevelopment in areas surrounding future rail transit stations.”]
- V. Transportation and Utilities
 - Policy A-10 encourages congestion management [through “transportation demand management strategies such as carpooling, telecommuting, flexible work schedules, and incentives to use alternative travel modes.”]
- VII. Physical Development and Urban Design
 - [Policy A-4 encourages “compact, higher-density development in urban areas designated for such use.”]
 - Policy A-5 encourages compatible compact development [as mixed-use town centers].
 - [Policy 6 encourages transit-oriented development to create multimodal communities that reduce traffic.]
 - Objective C is to “develop the urban corridor stretching from Waialae-Kāhala to Pearl City as the island's primary urban center.”
 - Objective D is to “develop a secondary urban center Ewa with its nucleus in the Kapolei area.”
 - Objective E is to “maintain those development characteristics in the urban-fringe and rural areas which make them desirable places to live.”

- o Objective G is “promote and enhance the social and physical character of Oahu’s older towns and neighborhoods.”

Regional Development Plans (DPs) and Sustainable Communities Plans (SCPs) ²

As intended the eight regional plans offer somewhat different visions for future development, meaning each region might benefit from somewhat different approaches to parking regulation. Each plan also provides specific land use policies and guidelines that apply to the region. There are, however, common themes:

- The plans differentiate between land use types such as natural areas, residential suburban areas and central mixed-use areas.
- Most of the plans stress accommodating future growth through compact infill development and preservation of natural areas. Koolaupoko seems to be the primary exception.
- To varying degrees, the plans emphasize policies and design standards that reduce automobile dependence and use, including access to transit, traffic calming, bike and pedestrian infrastructure, and travel demand management.

With regards to parking, the plans generally focus on the placement and design of parking facilities – generally out of view, screened, or properly landscaped – rather than the amount of parking that is necessary, and recommend consolidating parking and increasing the shared use of parking. The plans sometimes mention the importance of “adequate” or “sufficient” parking and some plans identify specific locations that are prone to parking demand issues, such as:

- Recreational sites, beaches, and shoreline areas.
- Central Oahu’s civic center and Wahiawa General Hospital (p. 3-46).
- “Big box” development in Koolau, which is discouraged (p. 2-9).
- Homes being used as vacation rentals in North Shore (p. 3-62).

The Primary Urban Center Development Plan (2004) contains a number of specific points related to parking:

- “Served by transit and district parking, businesses in older commercial districts are freed from individual parking requirements.” (p. 2-3)
- “A large number of people can walk or ride transit to parks and recreation facilities, reducing the need for space-consuming parking lots and garages.” (p. 3-9).
- The overdevelopment of single-family areas has increased parking demand (p. 3-19).
- Existing parking requirements are difficult to meet for older commercial buildings on major streets in Chinatown, Kaimuki and in parts of McCully-Moiliili, and new tenants often have trouble obtaining building permits (p. 3-22 and 3-23).
- Zoning regulations, including high minimum parking requirements “force the development of costly structured parking” and “hinder the development of new residences, especially new multifamily dwellings” (p. 3-33)
- “Based on vehicle ownership figures, the estimated space required to park all vehicles registered to residents of the PUC is more than twice the total amount of existing park acreage in the Primary Urban Center. This does not include parking for commercial, industrial and institutional uses, which accommodates vehicles from both within and outside of the Primary Urban Center.” (p. 3-52)
- “[The minimum parking requirement] raises housing costs, since the average construction cost per stall in a parking garage is about \$25,000. [...] Employer-subsidized parking stimulates single-occupant vehicle commuting and masks the true cost of parking stalls in Downtown and other commercial areas.” (3-52)

² Oahu’s DPs and SCPs can be found at <http://www.honoluluapp.org/Planning/DevelopmentSustainableCommunitiesPlans.aspx>

- Its transportation policies include: “Encourage the full use of underused private parking at commercial and large residential buildings through rental agreements.” (p. 3-61)
- The plan recommends potential implementation strategies, which include:
 - Review and evaluate existing parking regulations and requirements, including creating “Park-Once Districts,” counting all parking in a given district and evaluating parking requirements based on actual use and needs within 1/4 mile of transit stops (p. B-3).
 - Support older commercial centers by providing public parking and eliminating individual parking requirements (p. B-4).
 - Reduce or waive off-street parking requirements for neighborhood stores (p. B-5).
 - Evaluate and reduce minimum parking requirements (p. B-7).
 - Count parking as floor area and increase FAR commensurately (p. B-7).
 - Develop standards for frontage properties on transit-oriented streets, including reduced off-street parking (p. B-9).
 - Develop parking regulations to support transit ridership and manage transportation demand, including establishing parking maximums (B-9).

Honolulu Urban Core Parking Master Plan: Tasks 7 & 8 (2015)

Task 7 (parking rate study) documents current parking prices, reviews parking prices in comparable cities, and recommends raising the prices for on- and off-street parking. Task 8 (Waikiki parking meter study and pricing plan) provides detailed data for on-street parking supply and utilization in Waikiki.

The study team also studied off-street parking occupancy for a sample of commercial and residential buildings and found a considerable number of spaces, which they determined could be made available to ease parking demand. For example, they observed more than 100 unused spaces during weekday evenings at the Eaton Square garage and, in 2015, found that residential parking facilities were generally 72 percent occupied, with values ranging from 58 to 81 percent (Task 8, p. 19). In reference to their recommendations for on-street parking management, they conclude:

“...if the City and County of Honolulu were to decide to increase usage restrictions and/or on-street parking rates with the consequence of sending some parking patrons in search of off-street options, there appear to be plenty of off-street parking options available.”

Additional conclusions and recommendations include the following:

- On-street parking prices in Downtown Honolulu and Waikiki are too low at \$1.50, making spaces unavailable during the busiest periods and likely causing people to “cruise for parking.”
- The appropriate price is probably in the \$3.00 to \$6.00 range for meters that accept credit cards. The price should vary by location, according to demand, using the IPS reporting system. Prices should be used instead of time limits.
- Parking meters may be needed on Ala Wai Boulevard in Waikiki along the canal from Kapahulu Avenue to McCully Street (\$1.50) and on Kalakaua Avenue on the Makai side of Kapiolani Park (\$2.00).
- Consider parking benefit districts in Chinatown and Waikiki. Use the revenues to improve the districts (e.g., street repairs, bicycle facilities and lighting).
- Provide economical parking in peripheral areas to encourage the use multiple transportation modes.
- Add a Waikiki residential parking “permit” program that offers parking discounts but not free parking.
- Extend the hours of parking meter enforcement in the busiest areas.
- Consider converting select streets from two-way to one-way with metered parking on one side. Consider converting select travel lanes to metered parking.
- Manage and coordinate privately-owned parking, such as through a transportation management association (TMA).

Oahu Bike Plan (August 2012)

The first goal of this plan states that Honolulu will increase the number of bicycle riders and bicycle trips. This will be accomplished partly by growing the county's bicycle facilities from 132 miles in 2012 to more than 700 miles. Most of the planned facilities are in the Primary Urban Center (155 miles), Ewa (122 miles), Koolau Poko (74 miles) and Central Oahu (71 miles). With this goal, the plan describes a growing need for more bicycle parking, and describes programs and policies for growing the amount of parking (p. 4-1). It also describes programs and policies for integrating bicycles with transit, including improved bicycle connections to transit stations (p. 4-4).

Complete Streets Design Manual (2016)

The Complete Streets Design Manual recommends appropriate dimensions for on-street parking and guidelines for loading zones, parklets and bike corrals.

Making Honolulu an Age-Friendly City: An Action Plan (June 2015)

This action plan describes Honolulu as a historically car-oriented city and stresses that older adults are often dependent on their ability to drive (p. 33), but also emphasizes the importance of car-free living in its transportation vision (p. 29). It quotes a focus group participant and lifelong resident as saying, "We can't accommodate so many cars; the island is just too small" (p. 33).

The plan stresses the importance of affordable housing. It recommends revising current permitting requirements to allow less parking for affordable housing near transit stations (p. 57). It also recommends revising the LUO to allow for expanded use of accessory dwellings units (ADUs) (p. 48; p. 60), while also expressing concern that expanded use of ADUs could increase demand for on-street parking (p. 48; p. 54).

Paratransit Growth Management Study (May 2017)

Demand for paratransit (The Handi-Van) grew by 3-5 percent per year from 2001 to 2008 and by 5-6 percent per year from 2009 to 2015, making it the most heavily used service per capita in the country. This study recommends a two-fold approach for managing future demand: 1) improve on-time performance, which will increase demand, and 2) implement fare increases to offset the potential growth in demand.

Title 23 Chapter 6: Public Transit Supportive Services – Car-Sharing Program (Proposed)

The purpose of this proposed rule is to, "establish a program in connection with the public transit system which serves the public purpose of improving the mobility of Honolulu residents, reducing traffic congestion, and enabling additional transportation options, by providing support and regulation to car-sharing organizations." The program lets the Director designate up to 50 reserved parking stalls for each car sharing organization and issue up to 175 metered parking decals, which waives meter fees and lets the vehicles park for longer periods of time.

Honolulu High-Capacity Transit Corridor Project: Draft EIS Evaluation (November 2008)³

This Environmental Impacts Study finds that the HART line running from Kapolei to UH Manoa will decrease automobile mode share from 82 to 80 percent and daily vehicle miles traveled would decrease 4 percent.

The system will reinforce the planned "second city" in Kapolei, where employment is expected to grow by almost 400 percent by 2030, bolstering a reverse commute made possible by transit. The study states, "about

³ The Draft EIS can be found online at <http://hartdocs.honolulu.gov/docushare/dsweb/View/Collection-590>

20 percent of fixed guideway ridership during the a.m. two-hour peak period would be in the Ewa-bound direction” with 54-55 percent of trips originating from low-income communities. The study notes that parking rates in Downtown Honolulu were high in 2008: the median daily parking rate in Honolulu was \$44, nearly \$29 more than the national median of \$15.42” (p. 3-16).

The project is expected to remove an estimated 820 to 960 off-street parking stalls and 203 to 250 on-street parking stalls, particularly at Aloha Stadium (Salt Lake) and Ala Liliroi Stations (p. 3-41). A utilization study in June 2008 found that “most parking spaces that would be affected by the guideway are currently occupied at least part of the day,” but the demand varies. Four stations—West Loch, Pearlridge, Iwilei and Ala Moana Center—could attract spillover parking demand of 140 to 370 automobiles each day.

The report indicates: “In most cases, there is available parking on nearby side streets to accommodate people currently using parking spaces that may be lost to guideway construction” (p. 3-44). It recommends detailed surveys before adding capacity. It also recommends for affected areas: neighborhood parking permit programs, lease agreements to use available parking, building new parking in affected areas, and developing off-street parking management programs in affected retail areas.

Decarbonizing Transportation (July 2018)

This presentation to the Climate Change Commission describes Transcending Oil—a report commissioned by Elemental Excelerator and authored by Rhodium Group and Smart Growth America—which describes strategies for reducing emissions. The report calls for compact land use patterns and less parking. For example:

Price the full cost of parking and driving. Half the VMT [vehicle miles traveled] reductions considered in our analysis come from pricing mechanisms. Parking management plans should be established, and minimum parking requirements in new developments should be removed, as they add to housing costs and incentivize personal vehicle ownership. Congestion charges potentially coupled with VMT charges tailored to reward ride-sharing could be useful in shoring up lost gasoline tax revenue while also reducing transportation demand.

The full report is available at: <https://www.transcendingoil.com/>.



Technical Memorandum: Assessment of Available Data Sets

Off-Street Parking & Loading Sections
Land Use Ordinance for City & County of Honolulu, Hawaii

February 5, 2019

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Background

This is the second of three technical memoranda being prepared by affiliates of the Governors Institute on Community Design (GICD), intended to provide context and support to the City and County of Honolulu for updating parking-related sections of its Land Use Ordinance (LUO). The three technical memoranda are as follows:

1. Technical Memorandum I: Contextual Assessment of Existing Ordinance – In this memorandum, the GICD Team provides a review of existing parking regulations and related documents for the City and County of Honolulu, a contextual assessment based on existing research and literature, and a summary of our initial conclusions of the current state of off-street parking regulations.

2. Technical Memorandum II: Assessment of Available Data Sets – In this memorandum, the GICD reviews available data sets on the supply of and demand for off-street parking. The memorandum includes our conclusions, based on this analysis, and identifies for City staff future data collection opportunities that would, over time, enable them to better calibrate parking regulations to changes in demand, driven by changes in demography, economics, or technology.

3. Technical Memorandum III: Review of Best Practice Examples – In this memorandum, the GICD Team will review exemplary off-street parking and loading regulations and other related policies from communities comparable to Honolulu, along with related research, and document best practices for regulations that support effective transportation demand management (TDM). The memorandum will also compare Honolulu's off-street parking policies to current and future trends across the country and, particularly, in these comparable communities.

The Team will also lead a stakeholder engagement effort before making our final recommendations to the City and County of Honolulu in March 2019.

Overview

As outlined in Technical Memorandum I, the parking and loading requirements outlined in Honolulu's LUO may no longer be a good fit for meeting the needs of the county's businesses, residents, and visitors. Like most cities and regions, however, there is no comprehensive data on how much parking exists, how it is being used, and what might affect its use in the future. Fortunately, there is a variety of somewhat piecemeal data that can fill some of these apparent knowledge gaps. In addition, there are programs that could be put in place to ensure that more comprehensive data is collected on regular basis, so that the City and County may continue adjusting its regulations as needed.

This report reviews a range of materials and data—provided by City and County staff or gathered through additional research and outreach by our team—which paints a partial picture of parking supply and demand in Honolulu. The memorandum also describes data collection methods, which have been implemented in other cities and by interested organizations to gain a much more complete picture of the supply and demand of local parking resources. Appendix A includes maps of the current zones and special districts designated in the LUO, along with other available data sets.

This document focuses mainly on data related to parking supply and demand. Through inquiries and correspondences with City and County, including the Department of Planning and Permitting and the Department of Transportation Services, the Team did not uncover useful data related specifically to the supply and use of loading bays or the design of parking and loading facilities. We did learn of loading schedules and other data related to on-street parking, not explored in depth, which might be informative for setting and adjusting future off-street regulations. These topics are addressed more thoroughly in Technical Memorandum III: Best Practices.

While it would be premature to present recommendations for the kinds of adjustments that the County could be made to the current LUO, this memorandum does outline some initial findings and analytical techniques that will

inform the recommendations proposed once the Team completes a review of best practices and stakeholder engagement. Additional data sources, which may emerge through our continued engagement efforts, also will be evaluated and considered in the development of our final recommendations.

Existing Parking Studies

This section describes two key parking studies conducted within the county during the last decade. They offer some important insight, but also point to the current limitations in data availability.

Statewide parking inventory (2017)

The Blue Planet Foundation conducted a statewide inventory of existing parking facilities and electric vehicle charging stations. The study does not include occupancy data, but it reports the total number of parking stalls and charging ports by parcel. The inventory includes nearly 190,000 parking stalls across 500 parcels in Honolulu County.

Honolulu Urban Core Parking Master Plan (2010-2015)

This plan is the first comprehensive study of parking in Honolulu since 1973, initiated in 2010 by the Department of Transportation Services mainly to evaluate its pricing strategies.

Task 5 from this study, completed in 2010, includes a parking demand study for the areas of Chinatown, Downtown, Civic Center, Kakaako Mauka, and portions of Ala Moana and Makiki, including public and private on- and off-street parking. Overall, the study reports that parking in the study area was 71 percent occupied during the peak weekday period, leaving more than 13,000 vacant spaces. Surface lots were the least occupied at 66 percent and on-street parking was the most heavily used at 77 percent. Of the four neighborhoods included in the study, occupancy was lowest in Kakaako at 65 percent and highest in Downtown and Chinatown at 76 percent.

Task 8 from this study, completed in 2015, indicates that the Eaton Square commercial parking garage typically has more than 100 unused spaces (roughly one-quarter of the available spaces) during weekday evenings, including the entire top level. It also includes a survey of off-street parking at eight private residential sites, indicating that they are generally 72 percent occupied during the peak evening period, with occupancy rates ranging from 58 to 81 percent.

Commercial Parking Supply

The GICD Team reviewed data from 40 current commercial building permits, awarded by the Department of Planning and Permitting. Apart from a few exceptions, the data show that developers generally adhere closely to the requirements in the amount of parking they provide. More than 40 percent of the applicants built within 10 percent of the parking requirement and two-thirds build within 25 percent of the requirement. The excess parking, in such small amounts, likely reflects site planning considerations and a general tendency among developers to buffer what the County deems necessary. The most extreme outliers generally represent unique circumstances:

- Two cases where parking garages are shared with nearby buildings or open to the public for a fee (First Hawaiian Center and Ross).
- One case where the site previously had excess parking (Fiji Market in Kahuku).

The only apparent instances of excessive parking provision as a general practice are at 7-Eleven in Hauula, Zippy's in Kalihi (both small lots), and Kapolei Commons. On the other hand, the Dole Cannery Mall provides only one-third of the required parking on-site, due to several shared parking and joint development agreements with adjacent properties. This site, in particular, offers a useful model for developers to meet parking requirements in more flexible ways such as through shared parking agreements and incremental construction, which are addressed in Technical Memo 3 (Best Practices).

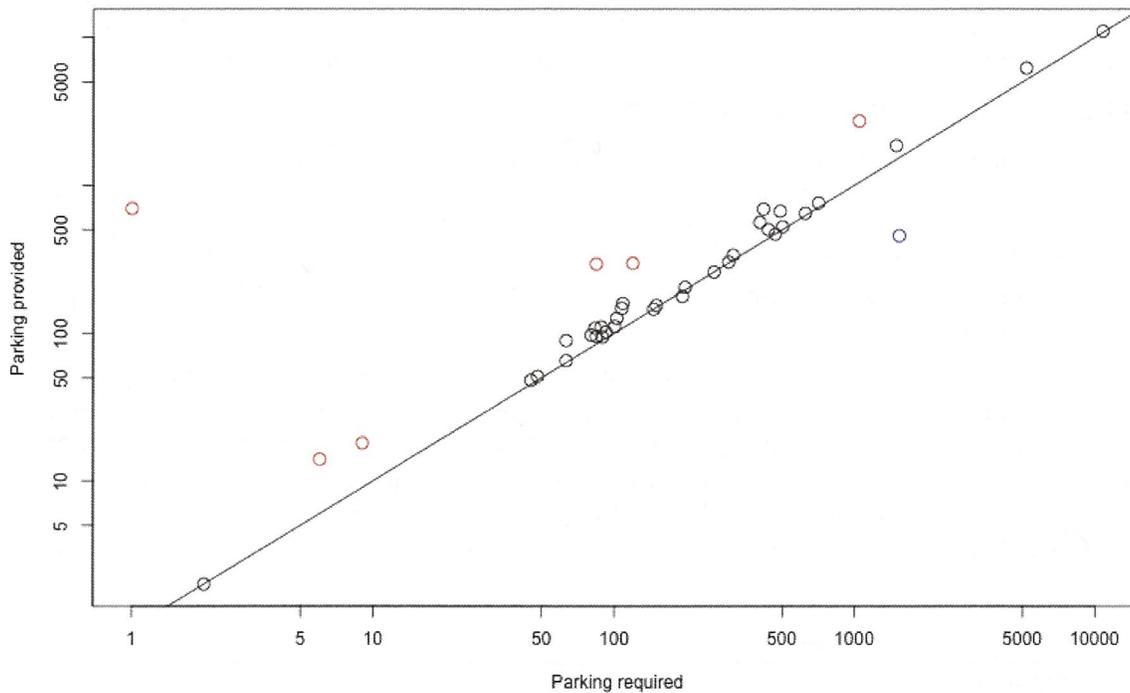


Figure 1. Relationship between required and provided parking at 40 commercial sites (log scale for better visibility; red=more than 200% of requirement; blue=less than 50% of requirement)

The fact that so few developers exceed the minimum requirements by a substantial amount is somewhat unexpected, given the intent of Article 6 (Off-Street Parking and Loading) in the LUO, which states: “Parking standards are not intended to satisfy maximum parking demand.” In fact, the data suggest that the minimum requirements are either closely aligned with the maximum market demand or they exceed the actual demand on many sites. Parking occupancy studies could confirm that the latter is true. Past studies from comparable cities and towns, however, suggest that there is often around 50 percent extra parking (1–5). More data may be needed, but, based on data that is currently available, there seems to be an opportunity to reduce certain requirements to the point where they minimize spillover into the surrounding neighborhood, while giving developers more flexibility to provide additional parking based on market demand.

These data also suggest that if the County were to consider implementing maximum parking allowances, in accordance with many of its policy goals (outlined in Technical Memorandum I), those maximums should be between 100 and 150 percent of the current minimum requirements if they are to have any influence, with possible exceptions for existing parking, paid parking, or major traffic generators.

Residential Parking Demand and Related Factors

This section presents an original analysis of available data for Honolulu County, conducted by the Team for this study, to estimate residential parking demand and to gain a better understanding of the factors that affect variations in demand. The analysis is based on data from the U.S. Census, which describe vehicle ownership (i.e., residential parking demand), household size, household income and residential density. We also incorporate data from two additional sources: 1) current zoning districts in Oahu – including established special districts – provided by the Honolulu Open Geospatial Data Portal, and 2) the Team’s original accessibility analysis describing transit and walking access throughout the county. All of these are presented in maps in Appendix A.

According to the U.S. Census American Community Survey (ACS), representing the years 2013-2017, the average household in Honolulu County owns 1.8 vehicles. That number is approximately 2.1 for homeowners and 1.4 for renters. This is one among several important contextual factors, which play a role in the analyses below.

Vehicle ownership by regulatory zone in Honolulu County

This section describes the relationship between zoning regulations for each parcel and vehicle ownership rates for the census block group that each parcel falls within. This excludes several districts because of their small size and number, relative to the associated block groups—specifically R-20, A-3, AMX-1, AMX-3 and the Haleiwa and Hawaii Capitol special districts. The analysis reveals some notable discrepancies between vehicle ownership and parking requirements in certain zone types, including areas where the minimum requirements are excessive and areas where average vehicle ownership exceeds the requirements.

Among detached residential zones (Table 1), roughly 80 percent or more of households in the Country, R-10, and R-7.5 zones are in block groups that own two cars or more, on average, suggesting that actual parking demand often exceeds the general requirement of two parking spaces per unit. In the R-5 zones, however, 22 percent of households are in the 1.5- to 2-car range and five percent are in the 1- to 1.5-car range, suggesting the minimum requirements are higher than what many households require in those zones. In the R-3.5 zones, 57 percent of households are in the 1.5- to 2-car range and nine percent are in the 1- to 1.5-car range.

Table 1. Vehicle ownership rates in detached residential zones

Vehicles per household	Country	R-10	R-7.5	R-5	R-3.5
< 1	0%	0%	0%	0%	0%
1 to 1.5	2%	0%	2%	5%	9%
1.5 to 2	12%	17%	19%	22%	57%
> 2	86%	83%	79%	72%	34%
Parcels with vehicle data	2,441	11,560	18,042	93,593	5,757

The minimum parking requirements for apartment zones, which permit multifamily dwellings with more than two units, are less strict in cases where the units are 600 to 800 square feet (1.5 spaces per unit, plus 1 guest stall per 10 units) or under 600 square feet (1.0 spaces per unit, plus guest stalls). Vehicle ownership rates are within this range for many parcels in zones A-1 and A-2 (Table 2). In zones AMX-2, BMX-3 and BMX-4, however, many households are in block groups that own less than one car, on average. This excludes any parcels that fall within the Waipahu and West Loch TOD special districts, which were analyzed separately.

¹ The Honolulu Open Geospatial Data Portal is accessible at <http://honolulu-cchnl.opendata.arcgis.com/>

² This minimum requirement assumes the residential units are 800 square feet or larger. Otherwise, the requirement may be as low as one space per unit.

Table 2. Vehicle ownership rates in apartment and mixed-use zones

Vehicles per household	A-1	A-2	AMX-2	BMX-3	BMX-4
< 1	1%	25%	69%	45%	71%
1 to 1.5	4%	45%	13%	33%	29%
1.5 to 2	28%	6%	3%	9%	0%
> 2	67%	24%	16%	13%	0%
Parcels with vehicle data	2,919	2,868	108	1,149	126

In the Chinatown special district, where many residential buildings are exempt from minimum parking requirements, 90 percent of households are in block groups owning less than one car per unit on average. In the Waikiki district, however, where residential buildings must provide one space per unit, 94 percent of households are in block groups owning less than one car per unit on average. Many households (38 percent) also appear to own less than one car in the Thomas Square district. Of the special districts analyzed, only Diamond Head represents a substantial number of households with more than 1.5 cars.

TOD special districts present a unique situation where parking requirements may be eliminated or greatly reduced, in accordance with the TOD Special District Design Guidelines, Neighborhood TOD Plans, and the Interim Planned Development-Transit (IPD-T) permitting process. Currently 37 percent of households in TOD special districts are in block groups owning 1.0 to 1.5 cars and 55 percent own 1.5 to 2.0 cars, but future transit service is expected to lower vehicle demand further.

Table 3. Vehicle ownership rates in established special districts

Vehicles per household	Chinatown	Diamond Head	Punchbowl	Thomas Square	TOD	Waikiki
< 1	90%	0%	9%	38%	0%	94%
1 to 1.5	10%	7%	80%	62%	37%	6%
1.5 to 2	0%	55%	4%	0%	55%	0%
> 2	0%	39%	7%	0%	8%	0%
Parcels with vehicle data	166	2,866	2,358	60	234	826

The numbers above provide only a rough overview of parking demand by regulatory zone, especially because vehicle ownership data from the ACS are only available at the block group level and have some inherent error associated with them. For instance, the average vehicle ownership for a single block group does not indicate how many households have zero cars and how many have upwards of four cars, many of which may not be represented in the ACS sample data.

Nonetheless, this overview provides a better understanding of general patterns and gives some indication of where there might be considerable discrepancies between the current parking requirements and the needs of residents in those areas. Perhaps more importantly, it shows the challenges of fine-tuning the requirements in

each district to meet those needs. The following analysis shows how readily available data may be used to adjust those requirements.

Factors affecting vehicle ownership

Studies of residential parking patterns in cities across the U.S. point to several key factors that correlate with vehicle ownership. These include land use patterns, transportation options, and demographic characteristics, among others. This section incorporates two kinds of data representing Honolulu County to compare vehicle ownership and five other factors. It also demonstrates how those factors can be used to predict vehicle ownership and potentially inform parking regulations.

American Community Survey (ACS)

The ACS includes three data sets that are useful in analyzing parking demand:

- **Household density**, measured in terms of households per square mile of land area, based on Census block group data.
- **Average household size** indicating the number of adults and children living in a household, based on Census block group data.
- **Median income**, also based on Census block group data.

Accessibility analysis

Accessibility metrics describe people's ability to reach important destinations by different modes. The popular website, Walk Score, is one example of a pedestrian accessibility metric. Transportation and planning decision-makers are turning to these kinds of metrics more frequently to understand and quantify multimodal options. The metrics below were calculated by the GICD Team using current data and methods recently employed by the Hawaii DOT in evaluating transportation projects. These metrics were calculated for each Census block and aggregated to block groups. The accessibility measures used in this report are described here:

- **Access to jobs by transit**, measured as the number of jobs accessible within typical travel times during the morning period. It includes time spent in transit vehicles, time spent waiting for transit or transferring, and walking connections to and from bus stations. This is generally a better indicator of transit service than simpler metrics like station proximity. The current metric represents current bus service, although it could be updated to include future rail service.
- **Non-work walking access**, reported as value between 0 and 100, indicates the number and variety of destinations such as schools, parks, stores and services that are accessible by walking within typical travel times. It accounts for pedestrian connectivity, including the pedestrian comfort of roads.

The Team determined that each of the metrics above bears a statistically significant relationship to vehicle ownership. In general, vehicle ownership increases with household size and income, and decreases with density and transportation options. When combined in a linear regression model, these variables explain 71 percent of variation in block group vehicle ownership. This means parking demand can be predicted reasonably well, based on where it is and who lives or will live there. Model details and scatterplots are presented in Appendix B, although a simpler application of these findings is presented below.

In this simplified approach, we ignore gradual changes in vehicle ownership and focus instead on areas with the lowest potential parking demand. For example, average car ownership is typically as low as one per unit in areas denser than 7,500 households per square mile and areas with non-work walking access scores greater than 75 points. This simplified model, described in Table 5, explains 68 percent of variation, meaning it provides nearly as much information as the full linear model described above. It tells us that the maximum expected automobile ownership is around 2.18 cars per household, but that number is 0.46 lower in areas where the median income is below \$50,000 (an important implication for affordable housing units), another 0.45 lower in areas where the average household size is lower than 2.5 (i.e., smaller units), another 0.31 lower in areas that can reach 125,000 jobs or more by transit, and so on. If all the criteria are satisfied, the model predicts car ownership could be as low as 0.65 per household.

Table 4. Simplified parking demand model

Criteria	Vehicles per household
Baseline (maximum)	2.18
Household density > 7,500 per sq. mi.	-0.17 (from baseline)
Access to jobs by transit > 125,000	-0.31 (from baseline)
Non-work walking access > 75 points	-0.14 (from baseline)
Average household size < 2.5	-0.45 (from baseline)
Low income (median < \$50,000)	-0.46 (from baseline)

This model could be used to identify specific areas or special districts where residential parking requirements might be eliminated or substantially reduced, as well as areas where parking demand may be higher. While these models are calibrated for residential parking demand, the same areas likely experience lower parking demand for other uses, since they are generally more walkable, transit accessible, and often within walking or cycling distance from households with lower car ownership. And while these models may not apply specifically to non-residential uses, they show that parking demand is highly dependent on contextual considerations, which should be taken into account for most kinds of development, except those that are specifically automobile-oriented.

It is also important to note that, due to a lack of site-specific data, this model does not account for other important factors such as the price of parking (or parking fees that are “unbundled” from rent), the availability of on-street parking, and housing intended for students, elderly, or people with differing physical abilities. In fact, the reported vehicle ownership rates are less than 0.5 vehicles per household for certain block groups in downtown Honolulu and greater than 3.0 for certain block groups in Waipahu (outside of its TOD district). A map of these data is included in Appendix A.

The ACS data also tell us that 10 percent of households have no vehicles, 35 percent have one vehicle, 35 percent have two vehicles, 12 percent have three vehicles, 5 percent have four vehicles and 3 percent have five or more vehicles. This inevitably means that minimum parking requirements will often exceed residents’ needs or fail to meet them adequately.

The County’s land use regulations may not be able to account for all of these factors and circumstances but, with additional and more intentional data collection efforts and reliance on existing research, the LUO and other complementary policies such as shared parking, residential parking permits and transportation demand management (outlined in Technical Memorandum III) should enable the City to bring off-street parking supply and demand more in line.

Future Trends

As described in Technical Memorandum I, there are many emerging trends that could lead to major shifts in travel behavior, parking demand and the amount of space needed for parking. Some of these trends are already having immediate impacts while others will play out over the long term and are much less predictable. A 2018 survey of transportation professionals provides some insight (6). For instance, 62 percent of parking professionals point to increasing use of ride-hailing services like Uber and Lyft as an important trend affecting parking and curbside demand, compared to only 18 percent who point to autonomous vehicles. Other important factors include a growing demand for walkable communities (44 percent), concerns about traffic congestion (41 percent) and changing commute patterns (35 percent). The same survey found that 50 percent of transportation professionals expect autonomous vehicles to impact parking within 10 years, while five percent say there is already an impact and 25 percent think the impacts will take 20 years or more.

Other future trends such as the increasing use of electric vehicles, depend in large part on global factors like fuel prices, international demand and technological advancements (similar to autonomous vehicles), but they also emerge as a high policy priorities in the State of Hawaii and Oahu County. Policy documents such as long-range plans and related reports should inform the County's parking regulations, which can then support those long-term goals and provide the flexibility the County will need to adapt. Several important documents, described below, provide a useful framework for understanding the kinds of shifts that can be expected, how those shifts might impact demand for parking and where the impacts might be greatest.

Oahu Regional Transportation Plan 2040

This plan, prepared by Oahu Metropolitan Planning Organization (OahuMPO), proposes transportation spending priorities over the mid-term (through 2029) and the longer-term (through 2040). It emphasizes "strategic investments in multi-modal facilities and equipment to offer residents and visitors more transportation choices." Data prepared for the planning effort, based on the MPO's travel demand forecasting model, depict areas of the County that are expected to have lower automobile mode share in 2040 (Appendix A). These data may be useful for identifying areas where parking demand will be lowest—many of which currently have some of the lowest vehicle ownership rates, according to Census data. But it is important to note that these forecasts do not consider some of the more ambitious transportation demand management (TDM) strategies such as pricing and parking management, which were emphasized in *Transcending Oil*, described below.

Transcending Oil: Hawaii's Path to a Clean Energy Economy (2018)

This report, prepared by Rhodium Group with Smart Growth America, indicates that total vehicle miles traveled may need to decrease by seven percent statewide to meet Hawaii's ambitious clean energy goals. In this scenario, roughly 70 percent of Honolulu's new growth takes place in dense, walkable areas near transit, and there are considerable constraints on parking supply.

Honolulu Transit Oriented Development Study Scenarios (2013)

This study tests four scenarios along the Honolulu Rail Transit corridor in 2050. It finds that new households could drive 45 percent fewer miles per year under a station area planning forecast and 58 percent fewer miles under a Corridor Focus scenario.

Report on Urban Lands in the State of Hawaii (2007)

This report, prepared by the State of Hawaii Office of Planning, finds that there is not sufficient urban land available to accommodate the projected growth in the county's Primary Urban Center or Waianae at the expected densities, or even with some increased density. Increasing density in these areas may require zoning changes and new assumptions about the supply of parking.

Data Collection Opportunities

The City and County of Honolulu, along with independent groups, has taken important steps in employing new technologies and gathering useful parking data. Examples include the installation of IPS SmartMeters, which provide use and occupancy data, and the Honolulu Urban Core Parking Master Plan. The current focus on public and on-street parking is not surprising, given that it is typically the most visible, it is shared, and it falls under the direct control of public agencies.

Data related to private off-street parking, and particularly its use, are less available. Policies for collecting and compiling these kinds of data will be important to ensure that off-street parking and loading regulations reflect their current use and the future needs of community members, particularly as those things change over time. As described below, these data can be collected as part of a focused study and as part of ongoing programs.

Data collection methods

Parking occupancy data was collected in separate studies in Boston (7), Chicago (2), Madison, Wisc. (5), Seattle (8) and Washington, D.C. (4). These studies all focused on residential parking, which is somewhat limited in scope but also challenging because the data must be collected during evenings or early morning hours. Studies like these require substantial outreach and coordination with building owners or managers, some of which consider this kind of information proprietary.

Similarly, the GreenTRIP parking database provides residential parking occupancy data for the San Francisco Bay area. Instead of field surveys, however, data were crowdsourced using a standard survey template available online (9).

The City of Madison, Wisconsin, surveyed on- and off-street parking throughout its Capital East District, including information about supply and occupancy, to calibrate its Park+ scenario planning model (10). The surveying methods were similar to those used by Walker Parking Consultants for the Honolulu Urban Core Parking Master Plan in 2015.

The City of Seattle conducts manual parking occupancy counts each year to adjust dynamic parking prices for each block, although its focus is on-street parking (11).

In order to establish its Transportation Demand Management program, which will monitor and regulate the addition of new parking, the City of San Francisco relied on several sources of parking data including a citywide census of public parking supply, conducted by its Municipal Transportation Agency (12), and the Transportation Authority's Parking Supply and Utilization Study (PSUS), which involved a supply survey of 500 properties and a survey of price, supply and occupancy at 74 garages or parking lots (13).

The City of Cambridge, Massachusetts, also monitors and regulates new, non-residential parking through its Parking and Transportation Demand Management (PTDM) ordinance (14). First enacted in 1998, the ordinance requires PTDM plans from any developer who wishes to add parking, showing how they will meet mode share goals. Outcomes are tracked and evaluated by an enforcement officer, who may impose fines or close parking facilities for non-compliance. Properties with fewer than five spaces are exempt.

Recommended next steps

There is a long history of development and design in Oahu, from which the City and County could draw useful information to make informed decisions about parking provision and regulation and to work through negotiations with developers, residents, community groups and elected officials. Outlined below are three steps for compiling that information, beginning with existing data and ending with formal data collections programs.

1. **Harness available data.** There are several important sources of information that our team uncovered for this study—including existing parking inventories, building permits, Census data and transportation data—which provide useful insight into parking supply and potential demand throughout Honolulu County. Working with the State, the Oahu MPO and other organizations, the City could begin systematically digitizing paper records and compiling other relevant data in a central location on a user-friendly platform, such as the Honolulu Open Geospatial Data Portal.
2. **Survey existing supply and demand.** Parking demand estimates could provide some of the most valuable information for the City and County as it continues adjusting its regulations and reviewing projects. Depending on their breadth and scope, parking demand studies can require extensive resources. Fortunately, the experiences in other cities point to some simplified approaches for getting started:
 - a. Seattle, which focuses on on-street parking, offers a framework for conducting annual parking demand studies (11).
 - b. McCahill's study of residential parking in Madison, Wisconsin, offers lessons for conducting parking demand studies with limited resources (15).

- c. The GreenTRIP program offers a framework for crowdsourced parking demand data. Their online survey, while serving as a useful template, could be greatly simplified to increase response rates (9).
3. **Implement data reporting programs.** Over the longer term, the City may wish to implement low-cost programs for automatically gathering parking-related data with a limited commitment of its own resources. Programs for monitoring off-street parking demand may be modeled off of existing TDM programs, such as those in Cambridge, Massachusetts and San Francisco, California. Honolulu may also consider joining a growing number of cities pressuring ride-hailing companies and delivery services to provide loading and delivery data through open platforms like SharedStreets (16).

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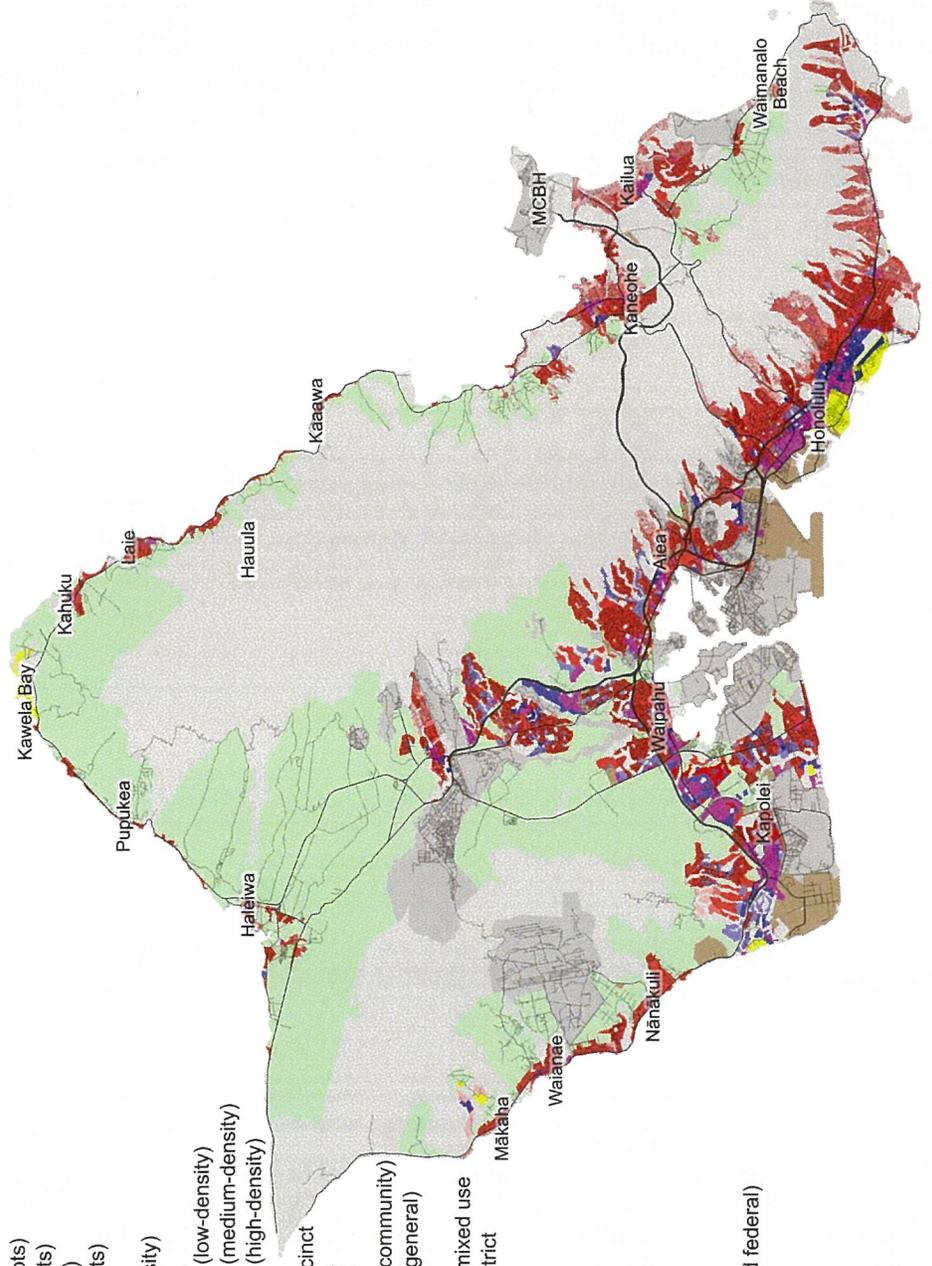
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Appendix A.: Maps of Available Data

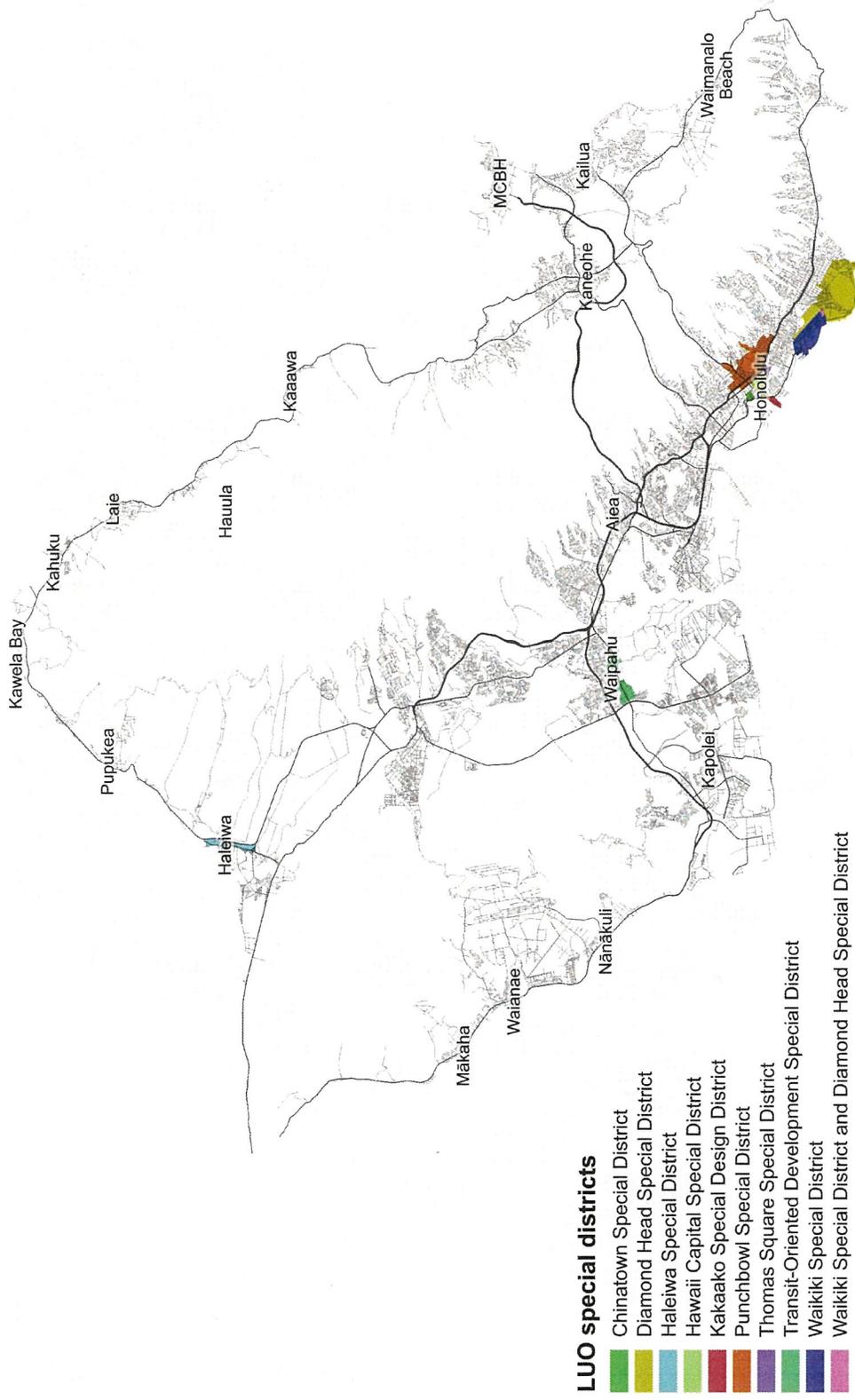
1. Zoning districts

LUO zones

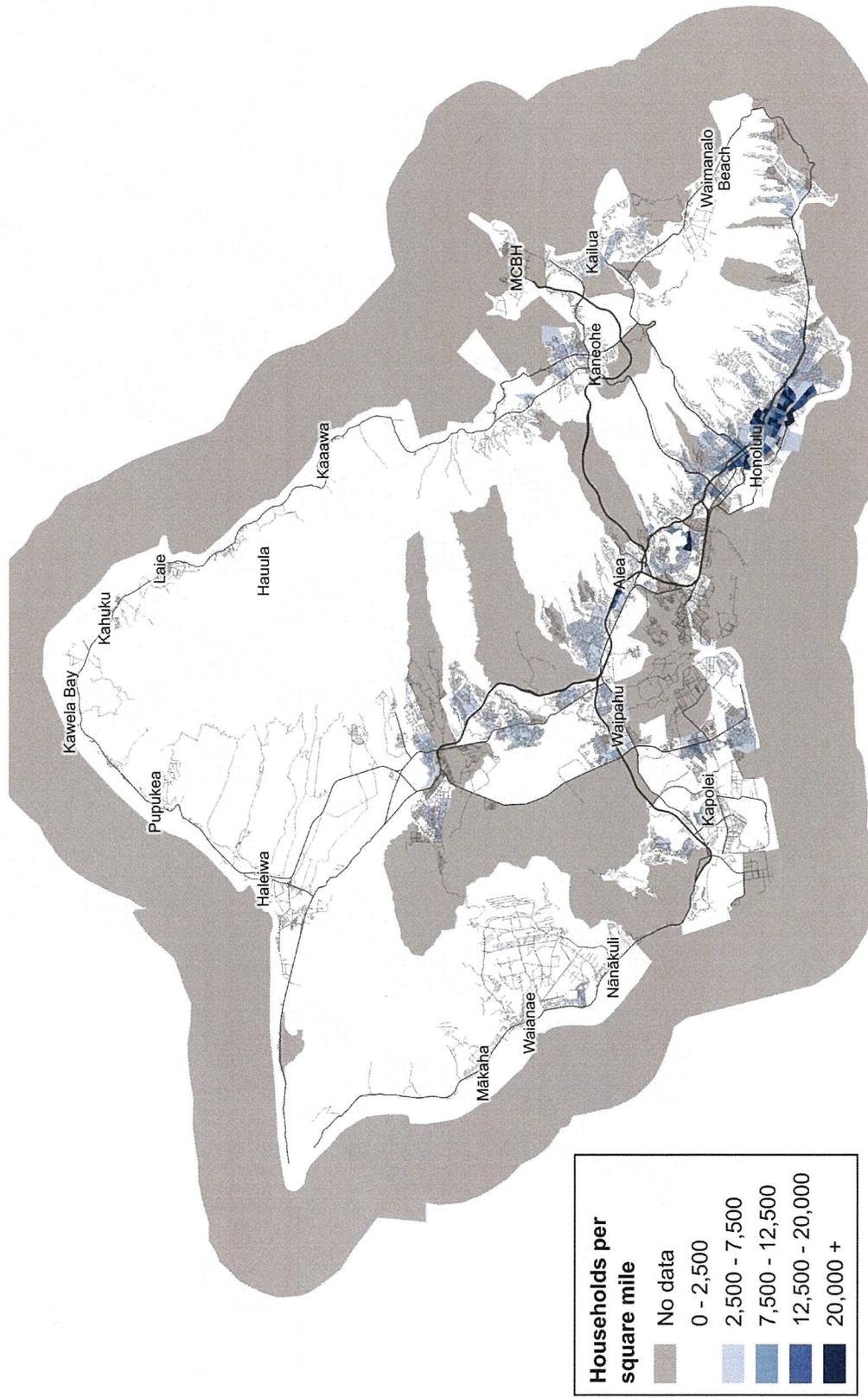
- R-10 Residential (10,000 sf lots)
- R-7.5 Residential (7,500 sf lots)
- R-5 Residential (5,000 sf lots)
- R-3.5 Residential (3,500 sf lots)
- A-1 Apartment (low-density)
- A-2 Apartment (medium-density)
- A-3 Apartment (high-density)
- AMX-1 Apartment mixed use (low-density)
- AMX-2 Apartment mixed use (medium-density)
- AMX-3 Apartment mixed use (high-density)
- Apartment precinct
- Apartment mixed use subprecinct
- B-1 Business (neighborhood)
- B-2 Business (community)
- BMX-3 Business mixed use (community)
- BMX-4 Business mixed use (general)
- Mixed use
- IMX-1 Industrial commercial mixed use
- Kakaako commercial dev. district
- Aloha Tower
- Public precinct
- Public use
- Resort
- Resort mixed use precinct
- I-1 Industrial (limited)
- I-2 Industrial (intensive)
- I-3 Industrial (waterfront)
- Waterfront industrial
- F-1 Preservation (military and federal)
- P-1 Preservation (restricted)
- P-2 Preservation (general)
- Country
- AG-1 Agricultural (restricted)
- AG-2 Agricultural (general)



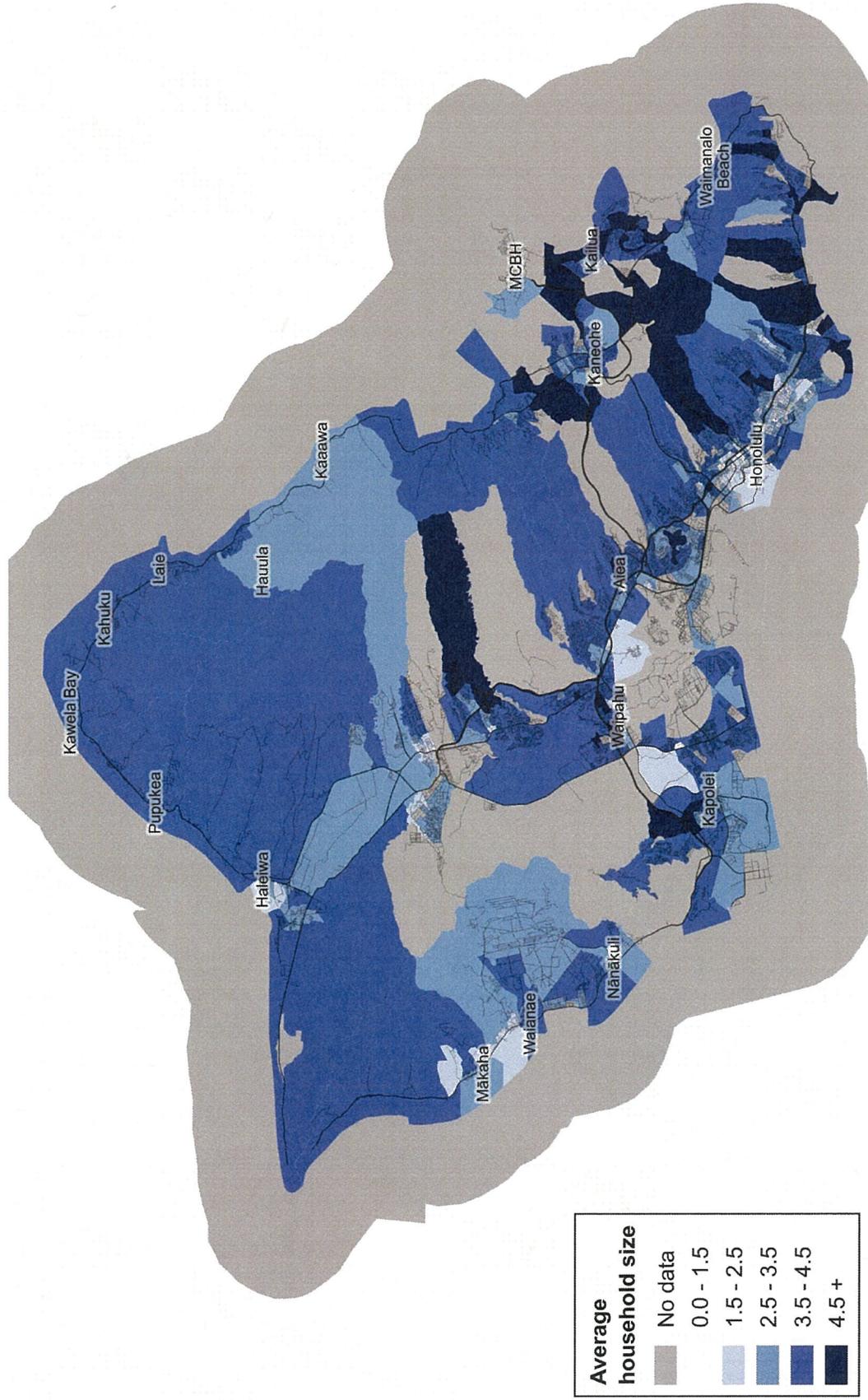
2. Special districts



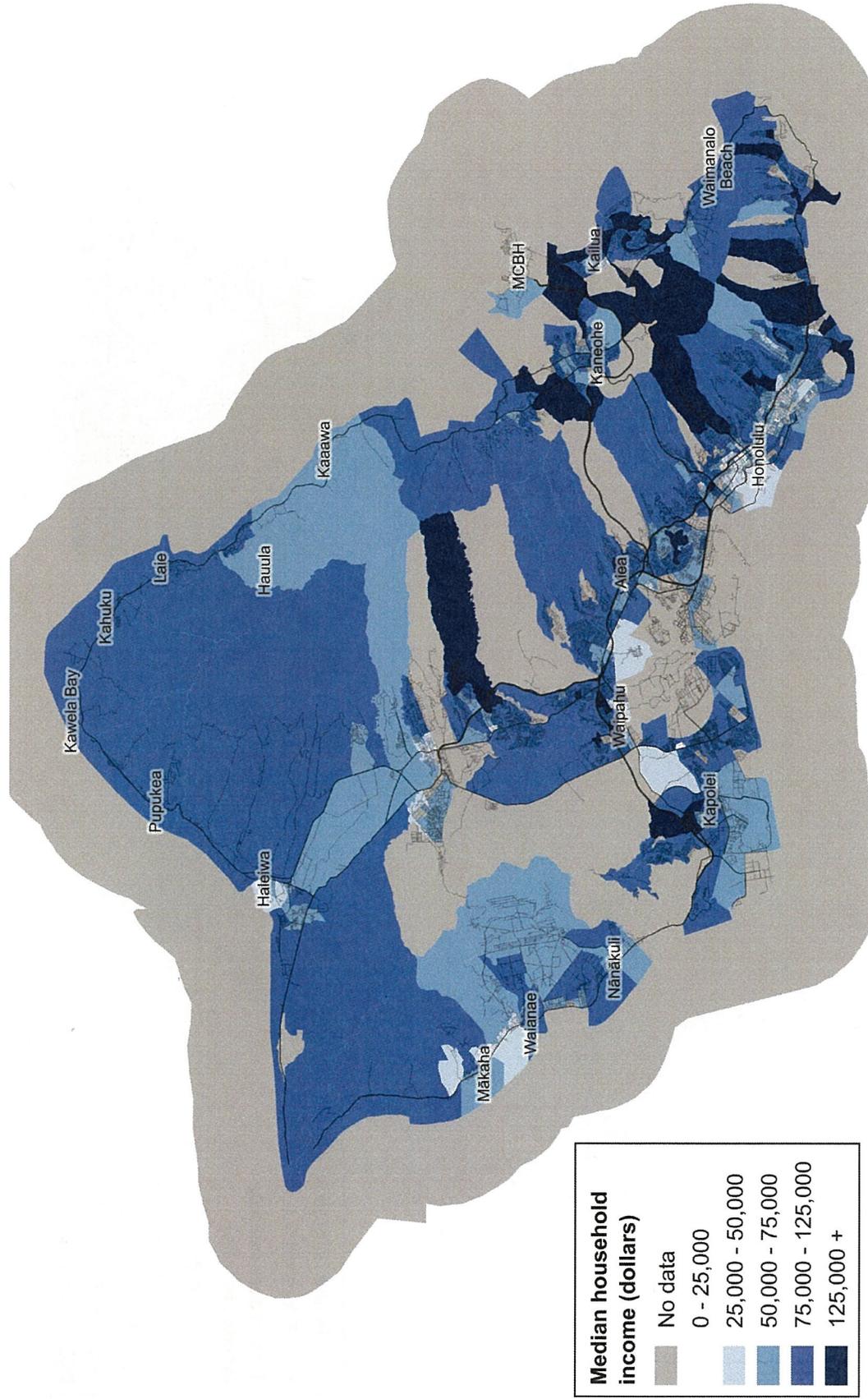
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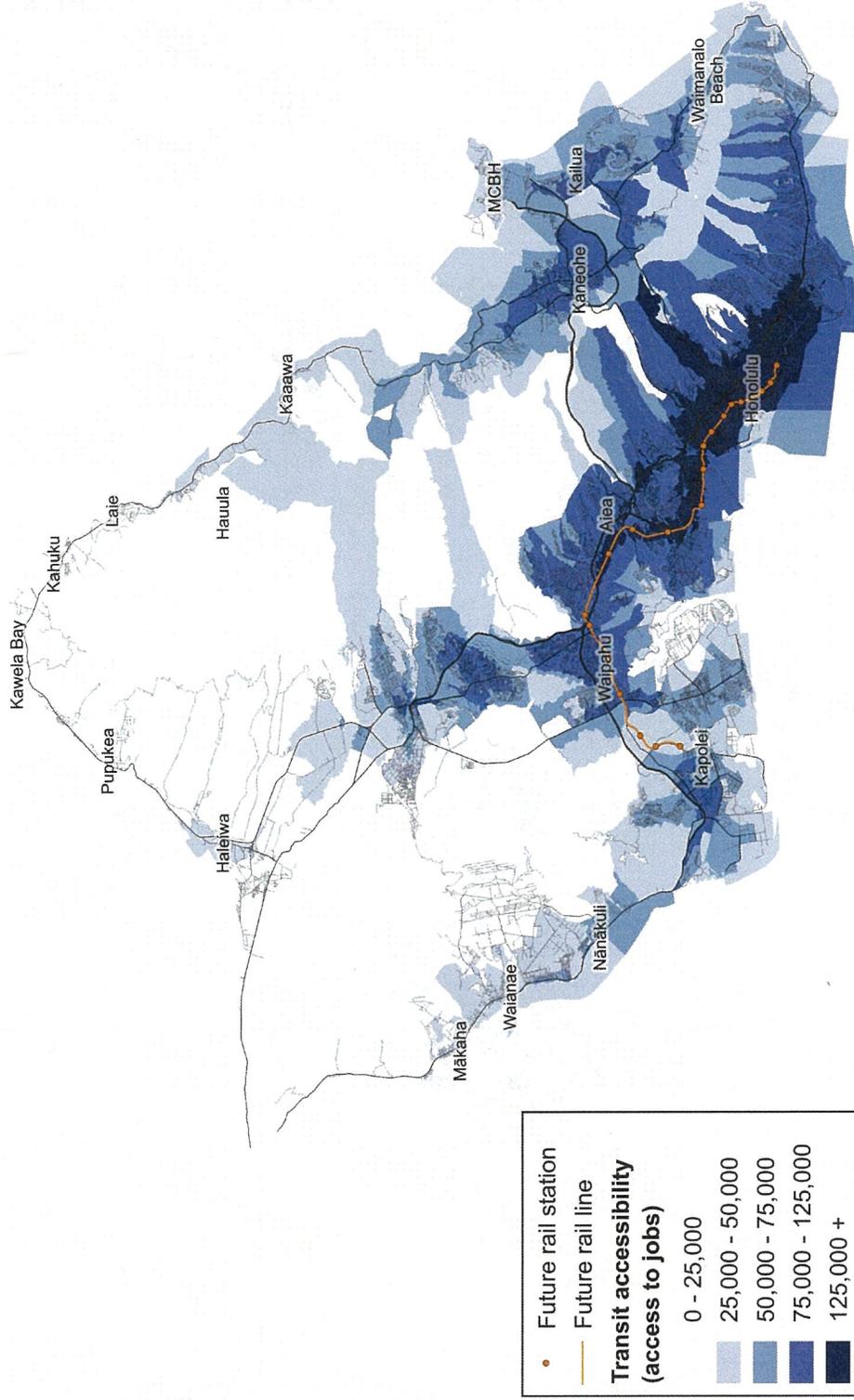
5. Average household size (U.S. Census American Community Survey 2017 5-year data)



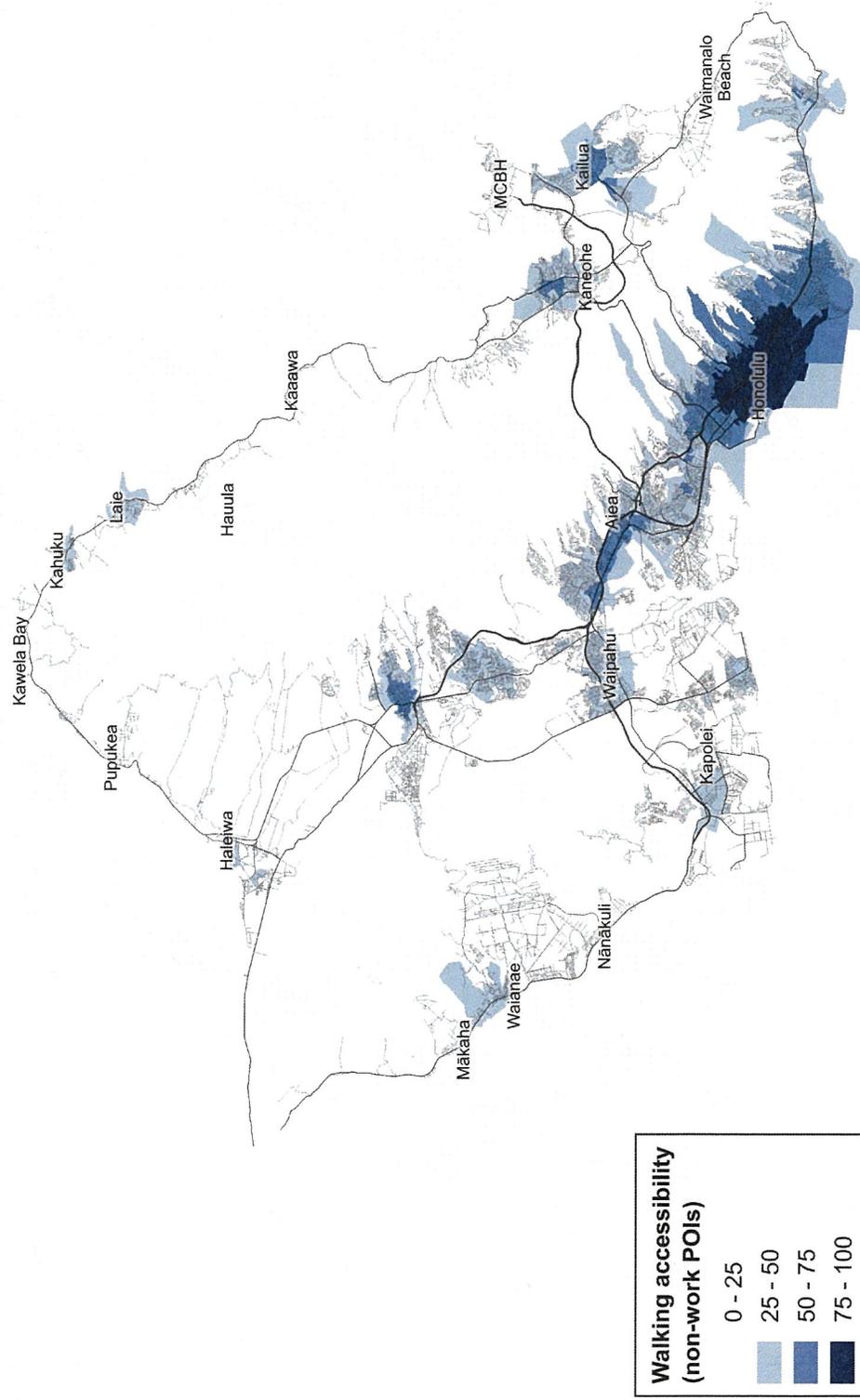
6. Median household income (U.S. Census American Community Survey 2017 5-year data)



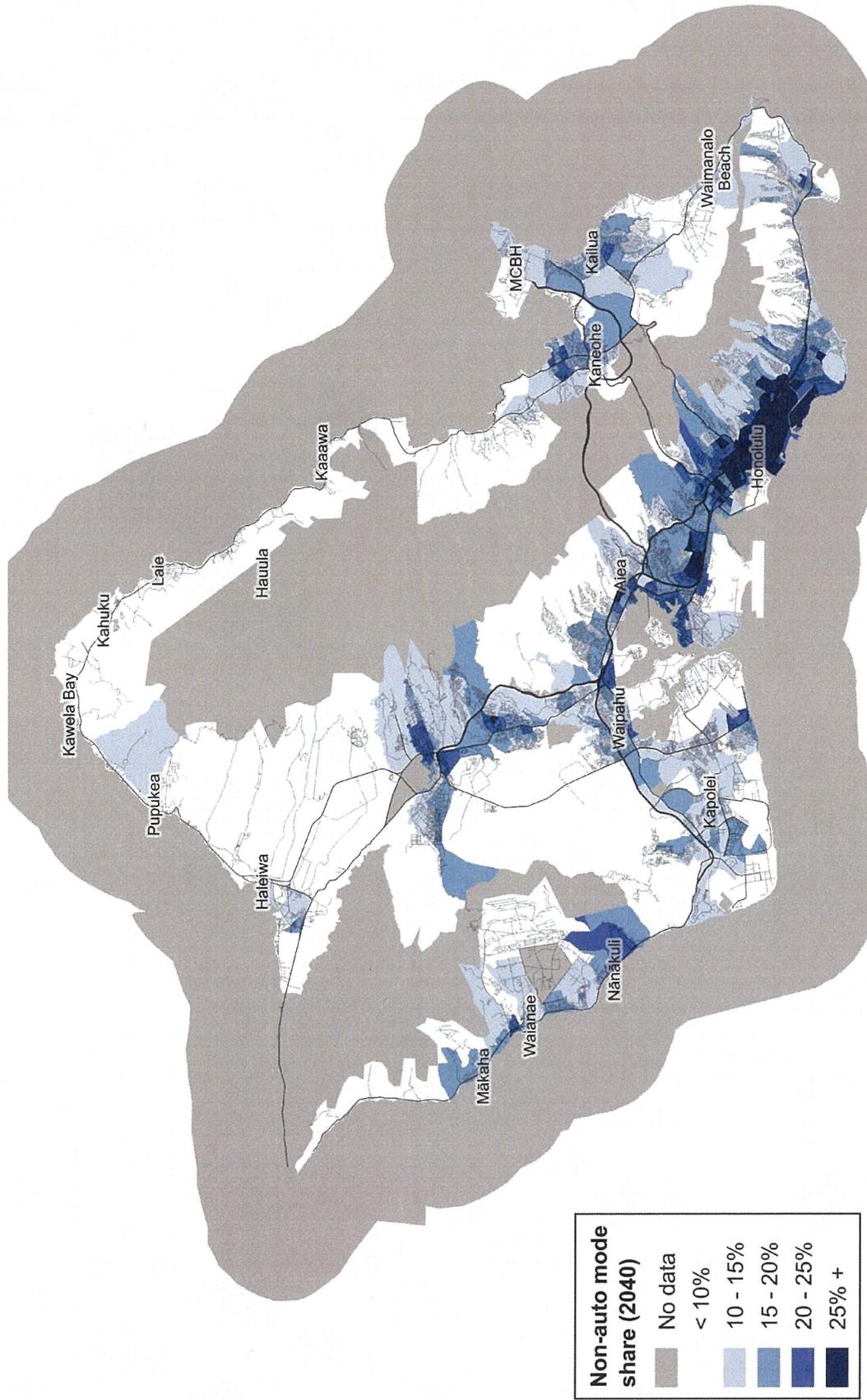
7. Transit accessibility (SSTI analysis for Hawaii DOT project evaluation)



8. Walking accessibility (SSTI analysis for Hawaii DOT project evaluation)

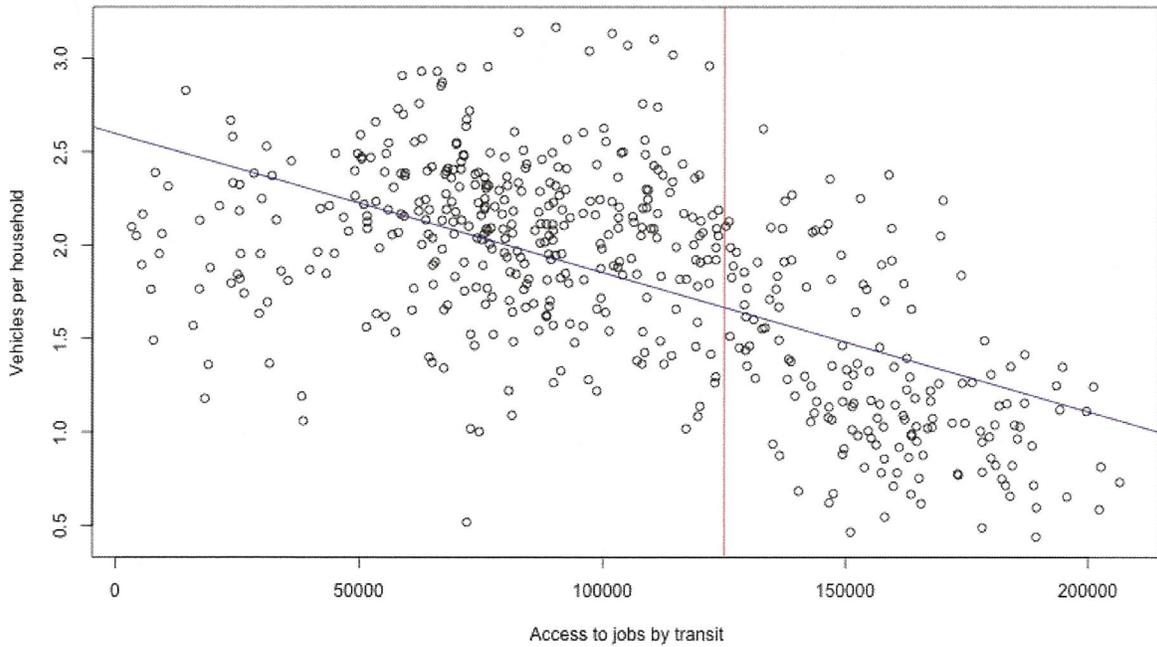
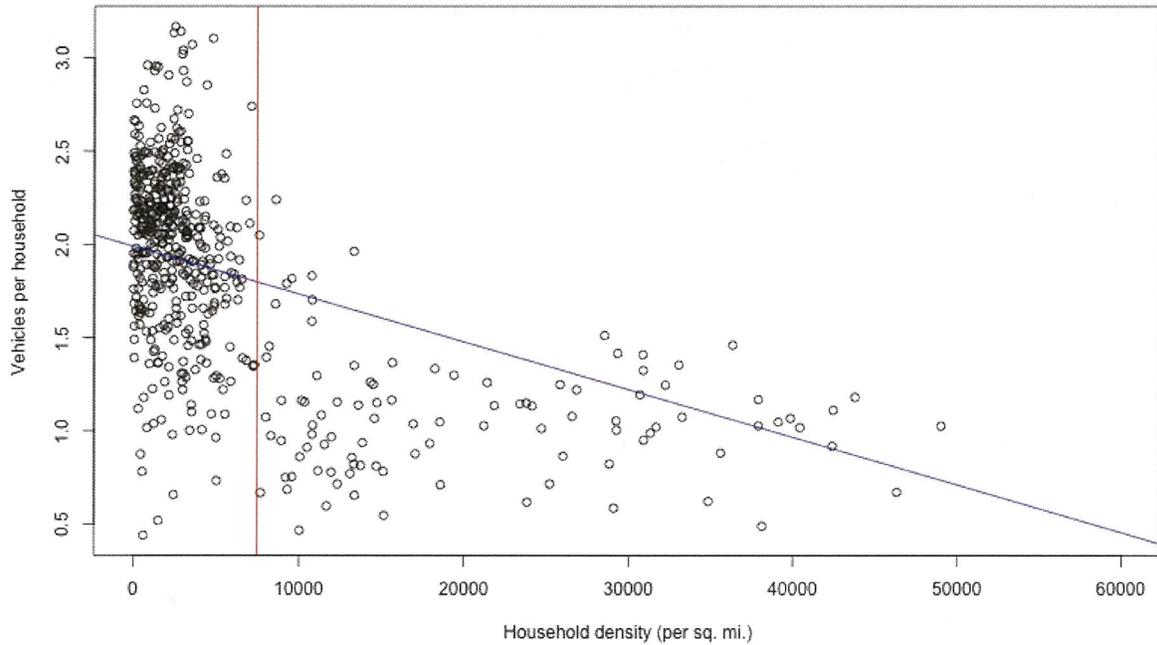


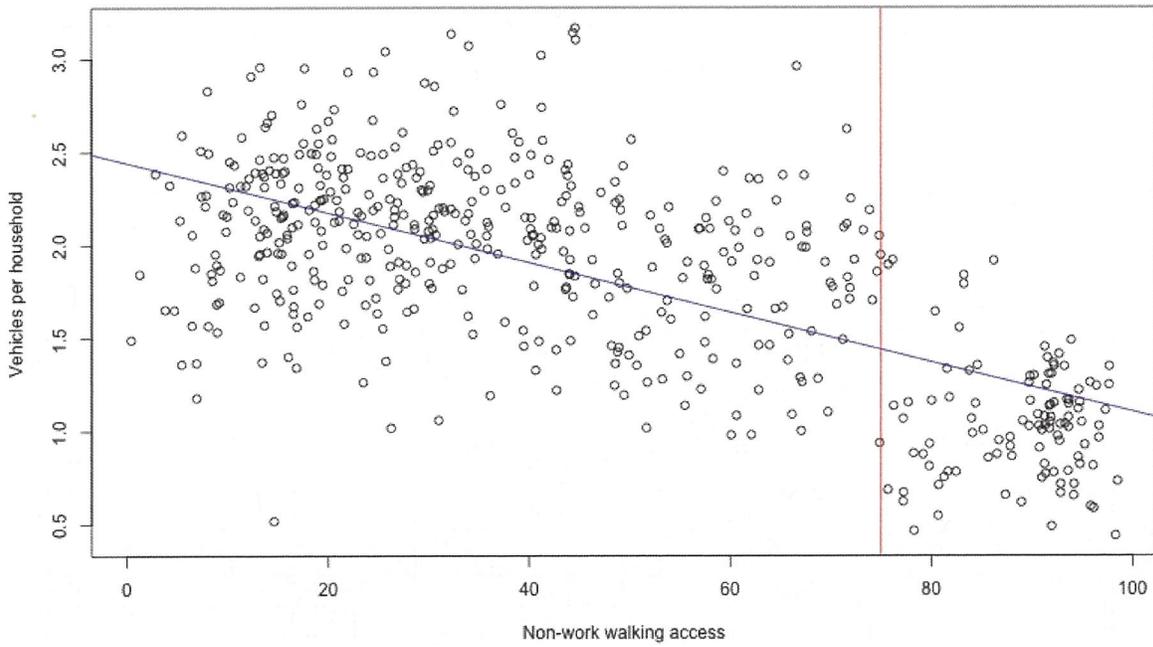
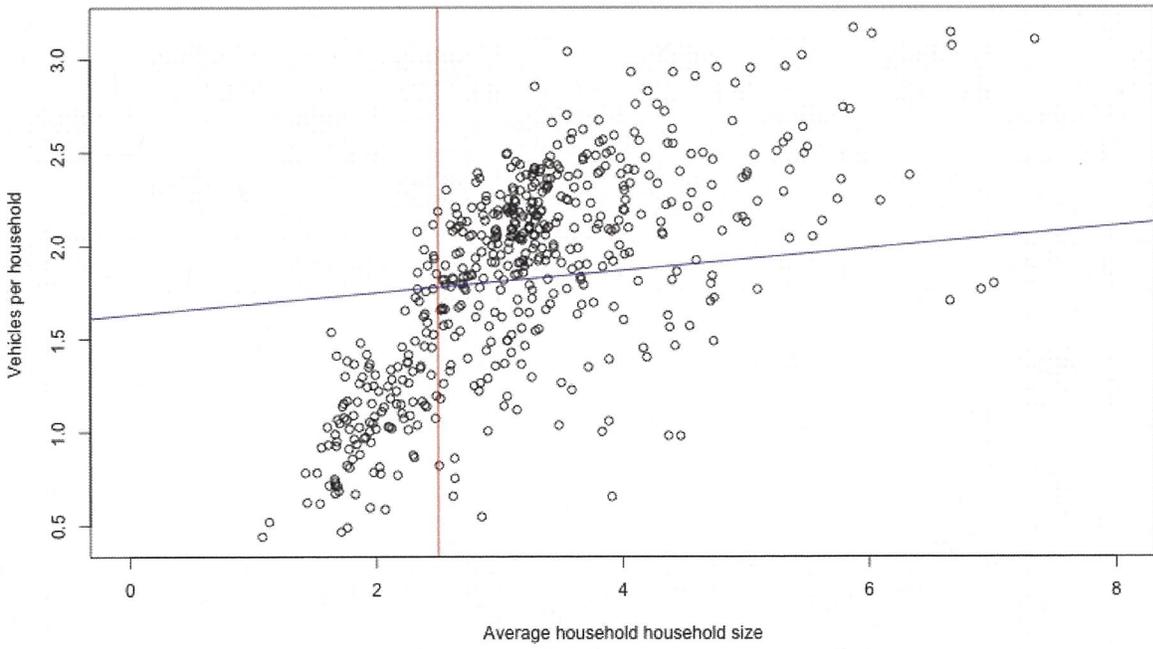
9. Non-auto mode share (2040, Oahu Regional Transportation Plan)

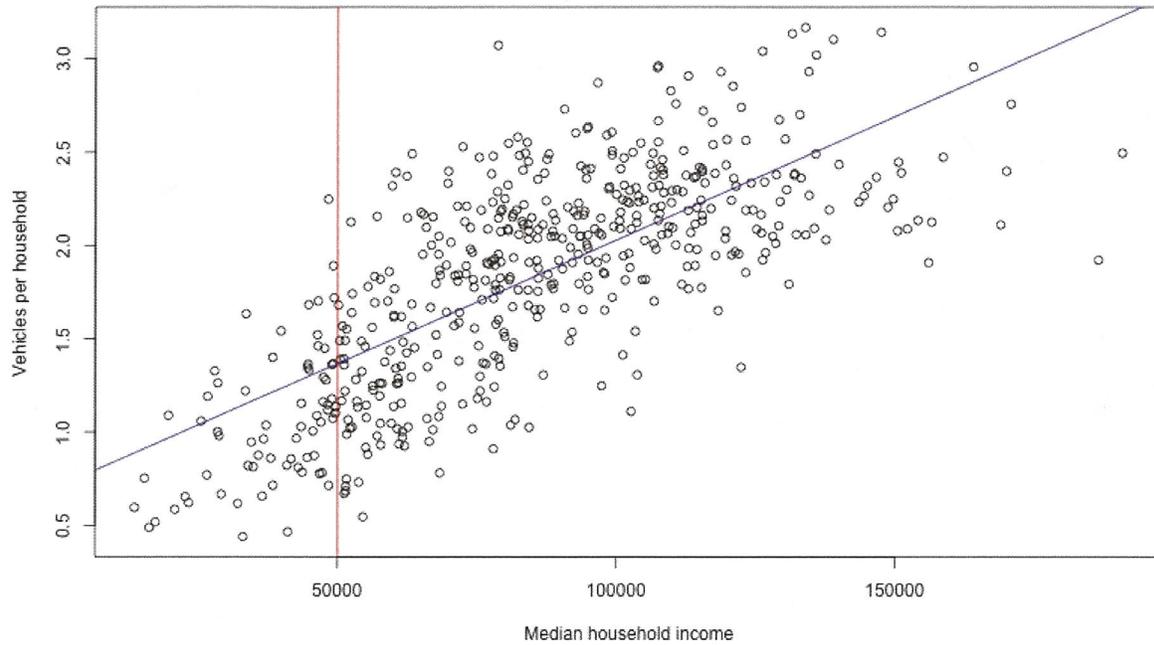


Appendix B. Vehicle ownership, covariates and model results

In the following plots, based on Census block group data, blue lines represent the linear relationship between variables and vertical red lines indicate categorical thresholds.







Results of regression modeling

Vehicles per household: Full model

Coefficient	Estimate	p-value
(Intercept)	0.953	< 0.001
Household density (per sq. mi.)	-2.57×10^{-06}	<0.001
Access to jobs by transit	-1.53×10^{-06}	0.008
Non-work walking access	-4.51×10^{-03}	<0.001
Average household size	1.78×10^{-01}	<0.001
Median income	8.17×10^{-06}	<0.001

Residual standard error: 0.3083 on 511 degrees of freedom

Multiple R-squared: 0.7107, Adjusted R-squared: 0.7078

F-statistic: 251 on 5 and 511 DF, p-value: < 2.2e-16

Vehicles per household: Simplified model (binary variables)

Coefficient	Estimate	p-value
(Intercept)	2.160	< 0.001
Household density (per sq. mi.) > 7,500	-0.155	0.007
Access to jobs by transit > 125,000	-0.318	< 0.001
Non-work walking access > 75	-0.136	0.038
Average household size > 2.5	-0.435	<0.001
Median income > \$50,000	-0.479	<0.001

Residual standard error: 0.3255 on 511 degrees of freedom

Multiple R-squared: 0.6775, Adjusted R-squared: 0.6744

F-statistic: 214.7 on 5 and 511 DF, p-value: < 2.2e-16



Technical Memorandum: Best Practices

Off-Street Parking & Loading Sections
Land Use Ordinance for City & County of Honolulu, Hawaii

March 8, 2019

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Background

This is the third of three technical memoranda prepared by affiliates of the Governors Institute on Community Design (GICD), intended to provide context and support to the City and County of Honolulu for updating parking-related sections of its Land Use Ordinance (LUO). The three technical memoranda are as follows:

1. **Technical Memorandum I: Contextual Assessment of Existing Ordinance** – In this memorandum, the GICD Team provides a review of all existing parking regulations and related documents for the City and County of Honolulu, a contextual assessment based on existing research and literature, and a summary of our initial conclusions of the current state of off-street parking regulations.
2. **Technical Memorandum II: Assessment of Available Data Sets** – In this memorandum, the GICD reviews all available data sets on the supply of and demand for off-street parking, both currently and as shown in trends over time. The memorandum includes our conclusions, based on this analysis, and identifies for City staff future data collection opportunities that would, over time, enable them to better calibrate parking regulations to changes in demand, driven by changes in demography, economics, or technology.
3. **Technical Memorandum III: Review of Best Practice Examples** – In this memorandum, the GICD Team will review exemplary off-street parking and other related ordinances from communities comparable to Honolulu, along with related research, and document best practices for regulations that support effective transportation demand management (TDM). The memorandum will also compare Honolulu's off-street parking policies to current and future trends across the country and, particularly, in these comparable communities.

The Team also recently led a stakeholder engagement effort to inform our final recommendations to the City and County of Honolulu in March 2019.

Overview

This document describes important trends and factors related to parking regulation and provides a broad overview of recommended standards and best practices from professional organizations and selected case study examples. The topics covered in this document range from basic design standards for parking and loading to more comprehensive policies that can be implemented alongside land use regulations to better manage parking supply and demand in Honolulu and throughout the State.

Trends and Policy Responses

Meeting urban parking needs can be challenging. Many cities are beginning to recognize that their conventional approaches to parking management—mainly through minimum parking requirements—are too narrowly focused and may often lead to unintended consequences such as added development costs, increased traffic, and more air pollution. Moreover, these approaches have proven to be inefficient means for meeting people's increasingly complex parking needs. Several key policy goals, critical to Honolulu and to cities across the country, are outlined below followed by an overview of emerging best practices for achieving those goals.

Promoting development (including affordable housing)

The high costs of parking construction, maintenance and operations can add significantly to building prices and rents. These costs, along with the physical constraints of building facilities large enough to meet minimum parking requirements, can dissuade developers from building in central locations, force them to downsize their projects, and push prices too high for low-income households and small business owners to afford.

Recent estimates put the average cost of parking construction in the U.S. around \$5,000 per space for surface lots, \$25,000 per space for a parking garage, and \$35,000 per space for an underground garage, but that number can be substantially higher in dense urban areas (1). On average, parking garages add \$1,700 per year

(17%) to residential rents nationwide and cost carless renters an additional \$621 per year (13%) (2). In San Francisco, parking was found to increase housing prices by 12 percent for single-family homes and 13 percent for condominiums, putting mortgages out of reach for an additional 20 to 24 percent of lower-income households (3). Cities are beginning to recognize that relaxed parking requirements can lower the cost of building in denser central locations, allowing for higher concentrations of businesses and families without the unnecessary burden of paying for excess, unused parking.

Parking costs in Honolulu. Parking reportedly added \$40,000 to \$80,000 to the cost of a two-bedroom apartment in Kakaako and accounted for 28 percent of development costs in the SALT retail center (4).

Managing parking, traffic, and travel demand

Drivers often expect cheap and plentiful parking; but they end up paying a higher price indirectly through the costs of goods and services and the frustration of competing over desirable parking spaces. By hiding those true costs, this supply-based approach also discourages people from considering options other than driving (often alone), which leads to increased traffic, fuel use, and emissions.

Numerous studies have shown that parking price and availability is a major factor in people's travel choices, travel behavior and, therefore, the amount of car traffic in urban areas. A commonly cited study found that roughly one-third of drivers in busy, high traffic areas are "cruising for parking"—i.e., circling the block in search of the most convenient parking spot. This is generally a sign that the prices for on-street parking don't reflect demand. A 2017 study by INRIX estimates that drivers in the U.S. spend 3.6 billion hours and 1.7 billion gallons of fuel each year looking for parking, costing \$72.7 billion in total (5). Parking is also one of the most important factors affecting people's decision to drive even in places with high quality transit or good walking and biking conditions (6, 7). For this reason, cities have therefore begun to manage the supply and price of parking as part of more comprehensive plans to encourage multimodal travel, meet environmental goals and, ultimately, improve transportation efficiency overall.

Encouraging responsible urban design

Regulating the quantity of parking, rather than its quality, undercuts widely accepted urban design principles in many ways (8). Not only do parking facilities, which are often located in front of buildings, degrade their architectural quality and the walkability of surrounding neighborhoods, but historic buildings are sometimes demolished so that developers can fit the required amount of parking onto the site.

For this reason, many larger cities and historic downtowns impose parking limits and increasingly regulate the location and design of parking facilities—e.g., by requiring parking facilities to be screened or landscaped, lining parking structures with habitable spaces, and requiring parking to be located behind buildings or underground. These regulations are often found in form-based codes, but cities have also begun to adapt more traditional Euclidean zoning codes with form-based standards for parking facilities.

Adapting to new markets and technologies

The massive growth in parking over the last century was largely a response to steadily rising vehicle ownership and use. Many recent factors, however, are contributing to lower parking demand in some cases and changes in how parking is used. Many of these factors—growing preferences for walkable communities, new forms of shared mobility, increased use of delivery services, and the possible widespread deployment of autonomous vehicles—are outlined in Technical Memorandum I from this study.

As an example, parking demand at restaurants and nightclubs has already dropped by 25 to 50 percent, respectively, in certain cities due to the rising use of ride hailing companies like Uber and Lyft. Future trends may be difficult to predict, but credit rating agencies, which play an important role in the funding and construction of new parking, are already signaling their concerns that parking is an increasingly risky investment—particularly as a standalone asset—unless the facilities can easily be converted to other uses (9).

These trends have caused many cities to consider whether they are requiring and providing the right amount of parking in the right locations, whether large parking structures should be adaptable for other uses, how to manage a shift from long-term parking to short-term pickup and drop-off, and how to accommodate electric vehicle charging. Some of these questions have clear implications that may be addressed, at least partly, through changes in land use regulations. Others, however, will require a more balanced approach to parking management, including those described below.

Existing Standards and Recommended Practices

This section provides a general overview of existing standards and recommended practices. Specific best practice examples are also described later in this report.

Parking and loading regulations

Guidance from the Institute of Transportation Engineers (ITE) points to several resources for understanding typical parking regulations across the U.S. (10, 11), each of which is described below along with emerging best practices from selected cities.

Parking Standards, published by the American Planning Association in 2002, provides a survey of parking requirements from across the U.S. It describes sample requirements for hundreds of land uses, many of which include maximum allowances along with minimum requirements, but it only lists several examples for each land use. These sample requirements tend to vary considerably. For example, residential requirements generally range from 1 to 3 parking spaces per dwelling unit and some include maximums ranging from 3 to 4 spaces per unit. General retail requirements range from 2 to more than 5 spaces per 1,000 square feet and some include maximums ranging from 5 to 5.7. Office requirements range from 2.9 to 5 spaces per 1,000 square feet and maximums ranging from 3.4 to 5. These do not include exemptions, reductions or municipalities with no minimum requirements (12).

Dimensions of Parking, published by the Urban Land Institute in 2014, recommends baseline parking ratios for a number of land uses. These include the following:

- From 1 to 3 parking spaces per single family dwelling unit depending on unit size.
- From 1 to 1.85 parking spaces per multifamily dwelling unit.
- 2.75 parking spaces per 1,000 square feet for general retail.
- From 2.8 to 3.8 parking spaces per 1,000 square feet for general office, depending on building size.

The publication notes, however, that these values should not be applied when accounting for shared parking and other local conditions (13).

Kimley Horn and Associates, using its Park+ modeling tool, found that parking demand could be much lower than commonly recommended baseline ratios, but varies considerably. For instance, parking usage ranged from 0.6 to 1.6 spaces per apartment in three communities it studied. Values ranged from 0.7 to 3 spaces per 1,000 square feet of retail, but only one of the five communities studied exceeded 1.2. Values ranged from 0.6 to 2.3 per 1,000 square feet of office space, but only two out of five communities exceeded 1.3 (14).

As one example of how parking regulations are changing with new technologies, the city council of Chandler, Arizona, recently introduced a new zoning ordinance to address the potential impacts of autonomous vehicles and ride-sharing on parking and loading demand. The new ordinance would allow parking reductions of up to 40 percent based on the number of nearby passenger loading zones or a parking demand study. The new rules will be voted on for adoption in mid-2019 (15).

Given the wide range of policy goals and contextual factors affecting parking demand and usage, none of the above documents recommend that any municipality copy standards from other communities or apply baseline standards without careful consideration of local factors. Technical Memorandum II from this study points to some specific factors related to the built environment and available transportation options that can be useful in predicting variations in residential parking demand throughout the county, based on vehicle ownership data from

the U.S. Census. Another useful document—*Parking Reform Made Easy*, published by Richard Willson in 2013—describes similar methods and special considerations for aligning parking regulations with broader policy goals (16).

A growing number of communities, however, have recognized the inherent challenges of predicting parking demand and have opted to eliminate minimum parking requirements entirely or in part and, in some cases, regulate the form of parking rather than the quantity. In the last several years, Buffalo, New York; Hartford, Connecticut; and San Francisco, California eliminated minimum parking requirements citywide and many other cities have no requirements for parts of the city, according to data compiled by Strong Towns (17).

This approach generally lets developers determine the right amount of parking for each project and explore creative options for meeting their parking needs. Los Angeles, for instance, passed an Adaptive Reuse Ordinance (ARO) in 1999, which exempted minimum parking requirements for buildings being converted to housing from industrial or commercial uses. A follow-up study showed that the exemption eliminated a critical barrier to housing development and let developers meet parking demand more cost effectively. High-end developers, for example, sometimes leased available off-site parking spaces and offered them to occupants for an additional cost (i.e., “unbundled”) (18). In 2015, Minneapolis eliminated parking requirements for residential buildings with 50 or fewer units near high-frequency transit (and reduced the requirement by 50 percent for larger buildings), which led to more infill development outside of the downtown and more affordable studio apartments (19, 20).

The choice of minimum parking requirements or maximum parking allowances generally reflects a city’s commitment to specific policy goals and outcomes, as outlined by Willson (16). For instance, minimums that exceed utilization typically result in developers rarely building more than the requirement, while lower minimums combined with maximums give developers a range of options based on their understanding of market demand and their lenders’ understanding of development risk. Minimums ensure that parking needs can be met on site, often at the expense of higher construction costs and barriers to development, while maximums reflect a focus on demand management but often require a suite of complementary parking and transportation management strategies, described later in this report.

There is not a widely accepted standard for setting loading requirements and our review of existing standards among different cities shows considerable variation (Table 5). For uses with high loading demand, the cities we looked at typically require at least one loading spaces for buildings that are 5,000 to 10,000 square feet and a second loading space for buildings that are 16,000 (unique to Seattle) to 50,000 square feet. Honolulu’s requirements for commercial uses, hospitals and public assembly are among the highest we observed.

Design standards

One reason to impose parking and loading design standards is to ensure that the available spaces are large enough and situated correctly to accommodate a standard vehicle. As shown in Table 4, the basic geometry of parking spaces is fairly consistent and they generally meet the “minimum level of comfort” standards outlined by ITE (10). ITE notes that vehicles have gradually gotten slightly larger over the last 30 years, but almost all growth in vehicle sales has been among standard compact cars.

Another consideration in parking design is the ability to accommodate future growth in electric vehicles and the need for charging stations. Electric vehicle charging stations should be provided for one to three percent of parking stalls, according to ITE, with power for up to 10 percent of stalls in high demand areas (possibly more to meet Hawaii’s aggressive clean energy goals), noting that residential locations will accommodate most charging needs. Some larger charging stations (typically Level 3 chargers) require an extra 36 inches of clearance in front of the stall—particularly for ADA compliant stalls—but a variety of smaller units are now available, including units that can be mounted on existing walls or poles. Hartford, Connecticut, requires Level 1 or Level 2 charging stations for buildings with 35 or more parking spaces (Level 3 chargers are optional) and Washington, DC, requires one charging station per 20 spaces in excess of its maximum allowance.

The most substantial change to parking design standards among many cities is regulating the location and appearance of parking, often through form-based codes or similar adaptations. These standards generally act to conceal parking from the street or to make it more aesthetically appealing. Methods include the following:

- Placing parking underground, behind buildings or toward the rear of buildings;
- Creating liners of habitable space to wrap parking structures;
- Including habitable ground floor space, often for retail, within parking structures;
- Adding landscaping, fences, walls or decorative facades to visible surface level parking.

Nashville, Tennessee, adopted its Downtown Code in 2010, which eliminated minimum parking requirements for 1.4 square miles and replaced them with form-based standards. Las Vegas, Nevada, with help from our team, adopted a form-based code for its Medical District in October 2018, which also sets minimum parking requirements at 40 to 50 percent of the standard requirement and maximum allowances at 50 to 70 percent. The City plans to expand the code to additional districts (21). While form-based codes impose a different set of constraints on developers than traditional zoning regulations, they also introduce added flexibility (such as with lower parking requirements). To alleviate concerns from developers, form-based codes can be made optional, but encouraged through increased height, expedited reviewing processes, and streamlined approvals.

A final consideration in parking design is the potential for future infill growth or the adaptation of parking for other uses. For example, larger parking facilities may be set back from the street, leaving a 40- to 50-foot buffer for future development in front. For larger, multi-phase development projects, parking can be accommodated through temporary surface lots on future development sites. In this case parking demand can be re-assessed throughout the project's development and parking can ultimately be accommodated at a single, right-sized facility. Finally, parking garages can be built in ways that let them be converted, fully in part, to other uses. Developers have begun to incorporate key features such as level floors and higher ceilings, which increase construction costs but can be encouraged through incentives like reduced parking requirements and height or density bonuses.

Figure 1. Parking structure built in advance of future liner building (Montgomery, AL)



Figure 2. Parking structure fronted by future development (Montgomery, AL)



Sample standards

The following tables provide a summary of general parking and loading standards for Honolulu compared to nine other cities recognized by City and County staff as comparable cities or known to our team for their innovative parking policies, as described in the best practice examples below. These tables are not detailed enough to understand the various standards entirely but provide enough information to serve as useful benchmarks. Some key finds include the following:

- Honolulu's parking requirements are generally among the highest (Table 1).
- Cities offer a wide range of parking requirement exceptions and provisions for shared or off-site parking (Table 2).
- Unlike Honolulu, some cities encourage developers to "unbundle" the cost of parking from building rents and leases, along with other transportation demand management (TDM) provisions (Table 3).
- The dimensions of parking and loading spaces are fairly consistent, but loading requirements vary widely, with Honolulu having some of the highest requirements (Table 4 and Table 5). Apart from some minor differences, the definitions of "building area" generally include any usable building space, excluding indoor parking.

Our team also reviewed the standards in Honolulu's Kakaako Community Development Districts, its TOD Districts and in Kauai and Hawaii Counties. The key differences are described later in this report under best practices.

Table 1. General parking requirements

Municipality	Residential parking	Retail parking	Office parking
Honolulu	Min: 1-2 per DU	Min: 3.3 per KSF	Min: 2.5 per KSF
Sacramento	Min: 0-1.5 per DU Max: 1 per DU (CBD)	Min: 0-2.5 per KSF Max: 2.5 per KSF (CBD)	Min: 0-2.5 per KSF Max: 2.5-4 per KSF
Seattle	Min: 0-1.5 per DU Maximums apply in certain areas	Min: 0-2 per KSF Maximums apply in certain areas	Min: 0-1 per KSF Maximums apply in certain areas
Portland	Min: 0-1 per DU Max: 1.35 per DU (commercial, mixed use and near transit)	Min: 2 per KSF Max: 5.1 per KSF	Min: 2 per KSF Max: 3.4-4.9 per KSF
San Francisco	Min: 0-1 per DU Max: 0.5 per DU (certain areas); 150% of minimum	Min: 2 per KSF above 0.5 KSF + 4 per KSF above 20 KSF Max: 150% of minimum	Min: 2 per KSF for 5+ KSF Max: 150% of minimum
DC	Min: 0.33 to 1 per DU Max: 2X minimum (see TDM)	Min: 1.3 per KSF over 3 KSF Max: 2X minimum (see TDM)	Min: 0.5 per KSF over 3 KSF Max: 2X minimum (see TDM)
Cambridge	Min: 0-1 per DU	Min: 1.11-2 per KSF Max: 1.67-4 per KSF	Min: 1-1.25 per KSF Max: 2-2.5 per KSF
Buffalo	No minimum	No minimum	No minimum
Hartford	No minimum	No minimum Max: 3 per KSF	No minimum Max: 4 per KSF
Lowell	Min: 1-2 per DU	Min: 1.11-2 per KSF	Min: 2.5 per KSF

Note: DU = 1 dwelling unit; KSF = 1,000 square feet

Table 2. Exceptions, shared and off-site parking

Municipality	Exceptions	Shared/off-site parking
Honolulu	Exemptions and reductions in planned development-housing projects, in public parking improvement districts, and certain other areas such as TOD.	Shared parking allowed through formal agreements.
Sacramento	Reductions for affordable or senior housing units (50%). Exemptions for small lots and adaptive reuse. Substitutions allowed for bike, carshare and on-street parking. Parking maximums exceptions for public parking and other conditions.	Shared parking allowed by time of day. Off-site parking may be 300-400 feet away for residential uses and 600-1,250 feet for non-residential uses with a written agreement.
Seattle	Exemptions and reductions apply in urban centers, Station Area Overlay Districts, MR and HR zones, or frequent transit service areas and for major institutions or income-restricted housing.	Shared or off-site parking allowed within 800 feet based on formal agreement.
Portland	Exemptions near transit, for affordable housing, in certain zones and to preserve trees. Substitutions allowed for bike, motorcycle or carshare parking.	Shared parking allowed within the same zone based on written agreement and time of day analysis.
San Francisco	Exemptions in certain areas, for smaller developments and based on site conditions. "Compact car-street" allowed in certain areas. Substitutions allowed for bike and carshare parking.	Shared parking allowed based on feasibility. Off-site parking allowed within 600 feet for multifamily dwellings and 800 feet for non-residential.
DC	Reductions near transit and for elderly housing. Exemptions for residential plots without road access and in certain zones. Special exceptions granted for site conditions, affordable housing and other considerations.	Shared parking allowed by written agreement. Off-site parking may be 600 feet away.
Cambridge	Exemptions for small businesses, institutions with residential uses, and by special permit.	Shared parking allowed by time of day through formal agreement. Off-site parking allowed within 400 feet for residential and 1,000 ft for other uses.
Buffalo	TDM plan may result in parking.	Off-site parking allowed within 1,320 feet or by valet.
Hartford	Some minimum requirements based on special permit process.	Shared parking allowed by time of day (see Appendix A). Off-site parking allowed within 500 ft for multifamily dwelling, 1000 ft for non-residential and non-household residential. Exemption for shuttles.
Lowell	Reductions for carshare parking, institutions with residential uses, and sites near public parking facilities.	Shared parking by time of day (see Appendix A).

Note: DU = 1 dwelling unit; KSF = 1,000 square feet; see details in Appendix A

Table 3. Provisions for unbundling and TDM

Municipality	Unbundling	TDM
Honolulu	NA	NA
Sacramento	Employee-paid parking listed as a measure in transportation management plan (parking reduction factors for different TDM measures).	Parking requirements reduced 35% with a TDM permit.
Seattle	Rented or leased parking may not be included in dwelling unit rental agreement.	TDM plan required by major institutions that exceed requirement by 35% or adds 20 spaces.
Portland	Fees may be charged for the use of required parking spaces.	TDM plan required in commercial/mixed use zones for 10+ dwelling units.
San Francisco	Included as TDM option.	TDM plan required for new construction with 10 or more DUs or 10 KSF.
DC	NA	TDM measures required for any site where minimum requirement is 20 spaces or greater and parking exceed twice the minimum.
Cambridge	NA	TDM plan required whenever parking is added.
Buffalo	Included as TDM option.	TDM plan required for most large buildings.
Hartford	NA	NA
Lowell	NA	NA

Note: DU = 1 dwelling unit; KSF = 1,000 square feet

Table 4. Loading and design

Municipality	General loading	Parking design	Loading design
Honolulu	Varies by building size and use (see Appendix A).	8' W x 18' L Aisles: 19' -22'	8.5-12' W x 10-14' H x 19-35' L
Sacramento	1 for 10 to 40 KSF + 1 per 40 KSF	8-8.5' W x 15-18' L Aisles: 24' W	10' W x 14' H x 40' L
Seattle	Varies by building size and loading demand (see Appendix A).	8' W x 19' L Aisles: 20' (or largest vehicle)	10' W x 14' H x 35-55'
Portland	Various standards for residential: 1 for 20 to 100 units. 1 for 20 to 50 KSF 2 for over 50 KSF	8.5' W x 16' L Aisles: 20' W	9-10' W x 10-13' H x 18-35' L
San Francisco	1 for 10 to 60 KSF 2 for 60 to 100 KSF 3+ for over 100 KSF High requirements in mixed use areas Maximum 1 per 50 KSF	7.5-8' W x 15-18' L	12' W x 14' H x 35' L
DC	Varies by use (see Appendix A). Shared loading allowed for adjacent properties.	8-9' W x 16-18' L Aisles: 20' W	10-12' W x 10-14' H x 20-30' L
Cambridge	Varies by building size and facility type (see Appendix A).	7.5-8.5' W x 16-18' L Aisles: 20-22' W	10' W x 14' H x 30-50' L
Buffalo	Loading required for building at least 50 KSF unless on-street loading is adequate.	8' W x 18' L Aisles: 22' W	Location and screening only.
Hartford	1 for 1,4-20 KSF 1 per 20 KSF for 20-100 KSF 5 + 1 per 40 KSF over 100 KSF 15 + 1 per 80 KSF over 500 KSF	8' W x 18' L Aisles: 24'	10-12' W x 15' H x 26-40' L
Lowell	Varies by building size and building type (see Appendix A).	8-9.5' W x 18' L Aisles: 12-20' W	10' W x 12' H x 35' L

Note: DU = 1 dwelling unit; KSF = 1,000 square feet

Table 5. General loading requirements

Municipality and land use types	Minimum building area for which X spaces are required (KSF)					
	X=1	X=2	X=3	X=4	X=5	X=6
<i>Honolulu - Retail, wholesale, business, etc.</i>	2	10	20	40	60	110
<i>Honolulu - Hotels, hospitals and public assembly</i>	5	10	50	100	200	300
<i>Honolulu - Offices</i>	20	50	100	200	300	400
<i>Sacramento</i>	10	40	80	120	160	200
<i>Seattle - Low demand</i>	40	60	160	264	388	520
<i>Seattle - Medium demand</i>	10	60	160	264	388	520
<i>Seattle - High demand</i>	5	16	40	64	96	128
<i>Portland</i>	20	50	NA	NA	NA	NA
<i>San Francisco - Retail, service and industry</i>	10	60	100	180	260	340
<i>San Francisco - Other</i>	100	200	500	900	1,300	1,700
<i>San Francisco - Retail and services (mixed use)</i>	10	30	50	100	125	150
<i>San Francisco - Wholesale, manufacturing, etc. (mixed use)</i>	10	50	143	190	238	286
<i>San Francisco - Hotels and residential (mixed use)</i>	100	200	500	900	1,300	1,700
<i>DC - Schools, daycare, institutions, etc.</i>	30	100	NA	NA	NA	NA
<i>DC - Entertainment, assembly, performing arts</i>	50	100	500	NA	NA	NA
<i>DC - Retail, service, restaurants, etc.</i>	5	20	100	NA	NA	NA
<i>DC - Office, lodging, basic utilities</i>	20	50	200	NA	NA	NA
<i>DC - Lodging</i>	10	50	100	500	NA	NA
<i>DC - Production, distribution, waste</i>	5	25	150	250	350	450
<i>Cambridge - A (manufacturing, wholesale, storage, etc.)</i>	5	40	90	140	190	240
<i>Cambridge - B (retail, etc.)</i>	10	20	70	120	170	220
<i>Cambridge - C (eating establishments, etc.)</i>	10	25	65	105	145	185
<i>Cambridge - D (studios, services, etc.)</i>	10	40	90	140	190	240
<i>Cambridge - E (hotels, hospitals, dormitories, etc.)</i>	10	100	200	300	400	500
<i>Cambridge - F (assembly, schools, labs, offices, banks, etc.)</i>	10	100	300	500	700	900
<i>Buffalo - Manufacturing, department stores, hospitals, etc.</i>	10	60	110	160	210	260
<i>Buffalo - Hotels, apartments and offices</i>	3.3	20	37	53	70	87
<i>Hartford</i>	1.4	20	40	60	80	100
<i>Lowell - Retail, wholesale, manufacturing, etc.</i>	5	50	100	150	300	450
<i>Lowell - Consumer services, offices, hotels, etc.</i>	5	100	150	300	450	600
<i>Lowell - Institutions</i>	50	150	300	450	600	750

Note: KSF = 1,000 square feet; see details in Appendix A

Complementary Policies

Off-street parking regulations are limited in their application as a tool to address parking-related issues. Minimum parking requirements, for example, which are the main regulatory mechanism in Honolulu's LUO, address a single issue: ensuring that peak demand is met so as to prevent spillover. Other land use regulations can serve to address a wider range of issues, including parking structure design issues, but a fully functioning parking and transportation system generally relies on a broad range of complementary policies.

Shared and off-site parking

Best practice examples: Cambridge, MA; Hartford, CT; and Lowell, MA

Exclusive parking, while easier to manage and regulate, leads to vast amounts of unused parking spaces. Cities and private building owners are beginning to realize the missed opportunity of shared parking. Increasingly, municipal land use regulations include provisions for parking reductions and shared use agreements, based largely on variations in parking demand by time of day for different uses. The peak demand for residential and office parking, for example, typically occur at opposite times of the day, presenting an ideal opportunity for sharing. *Shared Parking*, published by the Urban Land Institute, presents guidelines for sharing, including tables that describe variations in parking demand by building use (22). The SmartCode also describes shared parking factors for several uses (23).

Cities are also embracing opportunities for "park once" facilities, which allow visitors to park at a central location and walk to various nearby offices, shops and services. Moreover, these central parking facilities—public or private—provide opportunities for developers to lease existing unused spaces instead of building additional, excess parking. In Lowell, Massachusetts, for example, parking requirements for residential developments in certain districts can be met by leasing spaces from public facilities up to one-quarter mile away. Proximity to public facilities also qualifies certain developments for significant reductions and exemptions.

Private companies are also harnessing new technologies to let building owners and parking managers share parking more efficiently and in real-time. For example, companies like ParkMe and ParqEx (both operating in Honolulu) offer platforms for property owners to list unused parking spaces and make them available to the public for short- or long-term use via Smartphone apps and other use agreements. These platforms let drivers find competitively priced parking options often within a short walking distance of their destination, instead of relying on each individual building owner to provide parking for all of its tenants onsite.

There is no widely accepted standard regarding what an acceptable distance is to park from someone's final destination, which is partly because the answer varies considerably by person, context, and trip purpose. A Dutch survey found that people generally prefer to walk short distances (up to 300 feet) for weekly grocery shopping and for work but many are willing to walk longer distances (0.3 miles) for non-weekly shopping, social activities and, in some cases, for work. People who drive more frequently, or stayed at their destination for longer periods of time, are generally willing to walk further (24). As shown in Table 2, off-site parking allowances are typically within this range.

On-street parking regulation

Best practice examples: San Francisco, CA and Seattle, WA

Residential parking permits and related regulations can be effective methods for managing on-street parking, particularly in high demand areas. On-street parking restrictions can prevent spillover parking—particularly near commercial districts, offices and commuter transit stations—while ensuring that residents, short-term users and certain types of workers have fair access to public facilities.

Pricing is often an important component of residential parking programs, particularly in areas where demand potentially exceeds the available supply. While the laws in some states may prevent permit prices from exceeding the administrative costs, prices should generally be set high enough to curb potential abuse, such as from private homeowners who find it more economical to use on-street parking instead of private driveways or garages. Equity concerns may be addressed by offering subsidies or discounts to low-income or low-wage individuals. Major institutions that put pressure on the available parking supply may be required to offset prices.

Dynamic and market-based pricing

Best practice examples: San Francisco, CA and Seattle, WA

Strategic prices for parking can help manage and correct inefficiencies. This can mean setting higher prices for the most valuable parking and offering less popular parking at lower prices, often a short walk away. Smart meters, in-ground sensors and cameras can let cities or parking managers adjust the rates by block, by season or even by time of day, while simultaneously feeding real-time information to drivers about parking price and availability. Simpler pricing strategies based on annual surveys or manual studies of parking occupancy, however, can also be effective. Washington, DC, recently piloted an “asset-lite” approach to dynamic on-street pricing that leverages existing data to reduce the need for additional sensors (25).

As with residential parking permits, higher prices for parking are liable to draw criticism from users if the justification for those prices is not clearly articulated. San Francisco’s dynamic on-street parking program, for example, nearly died during its early expansion period because members of the public viewed it strictly as a revenue generator for transit, rather than as a management strategy. While public outreach and communication are important, other strategies can help garner support for pricing strategies. Parking benefit districts, for instance, ensure that parking revenues are returned to the district in which they are collected to pay for maintenance, cleaning, new amenities, enforcement and other public services, including offsetting the costs of affordable housing. A parking benefit district helped revive the struggling central business district of Old Pasadena in California (26).

Finally, even though local governments may not control the prices of private parking directly, they can implement policies to encourage fair pricing. For instance, cities may stipulate in zoning regulations that the costs of parking may not be included in lease agreements for building space (“unbundling”) such as for larger buildings in Seattle. These policies discourage developers from building excess parking and gives those who lease units more control over decisions related to their parking needs.

Transportation demand management (TDM)

Best practice examples: Cambridge, MA; Sacramento, CA; San Francisco, CA; and Seattle, WA

TDM programs are designed to reduce single occupancy vehicle (SOV) use, car traffic, and parking demand. Traditional employer-based TDM programs typically offer carpooling or shuttle services, transit passes, bike lockers and changing stations, guaranteed-ride-home services, telecommuting, or cash incentives to encourage employees not to drive alone for their commute. These programs also can be administered by transportation management associations (TMAs) – typically groups of business organizations that agree to pool their resources.

Increasingly, however, local governments are implementing citywide TDM programs, which may be tied to zoning codes and building permits. The City of Cambridge, Massachusetts, for example, enacted its Parking and Transportation Demand Management (PTDM) Ordinance in 1998, requiring developers to implement PTDM plans for reducing SOV use whenever parking is added. Several cities require TDM measures for larger projects, projects that don’t meet the minimum parking requirements, or projects that exceed the maximum allowances (Table 3).

Other cities have implemented formal TDM programs requiring developers to plan and implement a range of traffic reduction strategies before permits can be issued. These programs, which typically let developers earn credits by choosing from menus of TDM options that may include reduced parking, are described in a new report by the State Smart Transportation Initiative (co-author of this study) and the Mayors Innovation Project (27).

Curbside management

Best practice example: Seattle, WA

The rising popularity of delivery and ridesharing services, while lowering the demand for off-street parking, has also increased competition for curb space—most of which has traditionally been used for parking, if not as vehicle travel lanes. In many cases, pressure to include bicycles and new mobility options like scooters in thoroughfare design creates additional competition for this valuable urban space.

An emerging best practice in curbside management is the designation of so-called “flex zones,” which allow curb space to be used for more than one purpose such as passenger and commercial loading, which may change throughout the day. Off-street parking and loading regulations should strike a careful balance with curbside management practices to acknowledge that on-street facilities can relieve pressure from off-street facilities under certain conditions, and vice versa. Curbside management may also entail particular design considerations, such as bicycle storage, transit loading and traffic calming.

The proper implementation of curbside management practices may require a combination of pricing strategies, regulation and enforcement, new technologies (e.g., smart meters, sensors, and geofencing) and considerable planning. While these practices are relatively new, two important resources are available:

- Curb Appeal: Curbside Management Strategies for Improving Transit Mobility from the National Association of City Transportation Officials (NACTO)
- Curbside Management Practitioners Guide from the Institute for Transportation Engineers (ITE)

Local programs

While there is no concerted, countywide parking or transportation demand management program in Honolulu, there are useful local models that could be scaled up in coordination with updated land use regulations to achieve a well-balanced, well-managed transportation and parking system.

The Waikiki Transportation Management Association (WTMA) Special Improvement District, for example, was established in 2017 to let businesses and residents implement residential parking zones and curb management strategies. Residential parking permits were also piloted in Kalihi Valley that same year, then made permanent within several months after receiving overwhelmingly positive feedback from residents.

The Department of Transportation Services has also taken steps toward modernizing on-street parking, including the Smart Parking Meter Project, which covers parts of Downtown Honolulu, and price increases in 2017, based on findings from the Honolulu Urban Core Parking Master Plan (described in Technical Memorandum I). Meanwhile, the current LUO includes some special exemptions and provisions for shared parking, but no maximum allowances or acknowledgement of TDM strategies or parking price.

Best Practice Examples

The following best practice examples include local examples from Honolulu County and notable examples from throughout the U.S. While some of the cities are more comparable to Honolulu than others, each one offers applicable lessons for addressing local needs that could be implemented throughout the state.

Local examples

Honolulu’s parking and loading standards are generally comparable to those of neighboring counties, Kauai and Hawaii, although its LUO is generally more detailed and offers developers some additional flexibility. Within the County, there are useful best practice examples such as off-street parking rules governing TOD Special Districts and Kakaako Community Development Districts.

TOD Special Districts

TOD Special Districts can be established near major transit stations (typically within 2,000 feet) and are governed by special provisions in the LUO and special Design Guidelines that align with TOD plans. Based on the current Design Guidelines, there is no parking requirement for non-residential uses within TOD zones and residential parking requirements are reduced by 50 percent. The design standards also encourage underground parking, limited curb cuts, active building liners for parking garages and parking podiums that can be converted to habitable building space.

Kakaako Community Development District

The Hawaii Community Development Authority (HCDA) sets rules governing development in the Kakaako area. Some notable provisions include the following:

- Minimum parking requirements are reduced by 10 to 33 percent for many land uses, compared to Honolulu's LUO.
- Developers may count adjacent, marked on-street parking toward their minimum requirements.
- Off-site parking is permitted up to 1,200 feet away (a provision that many developers take advantage of, according to staff).
- Active liner buildings are required to conceal above-ground parking garages.
- Shared loading areas are permitted as long as all buildings have direct access.

And although it is not addressed specifically in the written area rules, the HCDA board required unbundled parking on a recent high-end development, according to staff.

Sacramento, California

Sacramento's parking requirements are organized into four different area types: central business districts, urban districts, traditional districts and suburban districts. Maximum parking allowances apply for certain land uses in certain area types. Central business districts typically have no minimum requirement and maximums that are comparable to the minimums in suburban districts.

Developers may provide up to 35 percent less parking than required by designating a transportation coordinator, implementing various TDM measures listed in the code and providing annual status reports. Projects can earn as few as two credits toward its 35 percent goal for things like transit shelters, showers and lockers, or as many as 20 credits for transit operating subsidies or shuttle programs.

In December 2018, the city council voted to eliminate parking requirements within a quarter-mile of light rail stations and cut them by 50 percent within a half-mile.

San Francisco, California

In December 2018, the city passed legislation eliminating minimum parking requirements from its zoning code, making it the largest city in the U.S. to do so. The City's Planning Commission recommended the changes unanimously after considering the more complicated option of adding more exemptions to the code.

In 2017, the city adopted a TDM program with the specific goal of reducing vehicle miles traveled (VMT) from new development, in accordance with state law. The program applies to new construction with at least 10 dwelling units or 10,000 square feet of floor area and changes of use resulting in at least 25,000 square feet. It requires developers to earn a certain number of TDM points, based on the location of the project and the number of parking spaces proposed. Points are outlined in a menu of TDM measures which includes active transportation provisions, delivery and shuttle services, parking reductions, unbundled parking costs or parking cash out, and other TDM-related incentives and services.

San Francisco manages on-street parking throughout a combination of parking meters, residential parking permits and other regulations. Residential parking permit zones are established through petitions, which must be signed by more than fifty percent of households on each block. Permits cost \$136 per year and each household may hold up to two or four permits, depending on their zone. Business owners, caregivers, teachers and long-term visitors are also eligible for permits under certain conditions.

Curbs throughout the city are colored, indicating their designated uses, which include short-term parking, commercial loading, passenger loading, and parking for people with disabilities. Residents, business owners and school administrators may apply for colored curb zones, but their approval depends partly on the availability of off-street parking.

SFpark is a pioneering approach to managing metered on-street parking demand through market-based pricing. The program was piloted from 2011 to 2013 using in-road parking sensors to establish prices such that each block achieves roughly 60 to 80 percent occupancy. It was then expanded citywide in 2017 without the use of sensors. The initial pilot study found that the program reduced average search times from 11 to 6 minutes, reduced the number of citations by 27 percent and reduced the average price of parking overall (28).

Seattle, Washington

Seattle adopted new rules in April 2018, which included the following changes to its zoning code:

- The cost of parking may not be included in rents for residential buildings with 10 or more units—i.e., “unbundling.”
- Residential and commercial building owners may rent excess parking to non-occupants.
- The definition of “frequent transit service” areas was expanded, exempting a larger area of the city from minimum parking requirements.
- Bicycle parking requirements and shared-vehicle parking allowances are increased.

These changes were meant to “improve housing affordability and neighborhood livability” and “improve the efficiency, access, and affordability of off-street parking.” One council member also cited the City’s commitment to environmental responsibility and climate policy as reasons for the revisions (29).

The City maintains 34 residential parking zones (RPZs) for on-street parking, which can be expanded by petition of 60 percent of households on a block, if 75 percent of the available parking spaces are full. Permits cost \$65 per year. In certain areas, major institutions provide subsidies and \$10 permits are available to low-income households.

The City also maintains a performance-based pricing program for its metered on-street parking. Prices vary by zone and rates are adjusted each year, based on annual studies of parking occupancy. The city has made parking occupancy data available to public through its online data portal.

The City established flex zones as a way of managing and prioritizing curb space. The comprehensive plan sets flex zone priorities such as storage (including parking), multimodal mobility, access for people and access for commerce, based on use types (e.g., commercial versus residential). This policy supports many of the City’s goals related to safe and convenient use of its public rights-of-way but also interacts with its land use code and other policies, such as those related to demand management. To manage curbside loading, the City recently developed digital commercial loading permits and designated five blocks as Commercial Vehicle Load Zones between 6 and 11 am.

Cambridge, Massachusetts

Cambridge’s zoning code includes minimum parking requirements, maximum allowances for many land uses, and the flexibility for developers to share off-street parking among different uses. Additional parking reductions may be granted based on the findings of a parking analysis, which may consider vehicle ownership rates, parking demand at comparable sites, building occupant characteristics, transit availability, on-street parking availability and use, parking inventories of nearby sites and TDM strategies.

The City’s Parking and Transportation Demand Management (PTDM) program, originally adopted by ordinance in 1998, prohibits property owners from adding non-residential parking spaces without developing a plan to reduce single occupancy vehicle trips. It applies to small projects (5 to 19 spaces) and large projects (20 or more spaces). The building is monitored annually through surveys, traffic counts and a review of TDM measures to ensure compliance. Non-compliant properties may be fined and their parking facilities may be closed.

Buffalo, New York

Buffalo eliminated its minimum parking requirements in 2017 and replaced its existing zoning ordinance with a form-based code, called the Buffalo Green Code Unified Development Ordinance (UDO). The new code regulates the design and placement of parking and it requires new developments exceeding 5,000 square feet or renovations exceeding 50,000 square feet to include transportation demand management (TDM) plans. According to a statement from the Mayor, the code is meant to promote investment in the city, improve the environment, and create a more healthy, sustainable, and prosperous community (30).

Hartford, Connecticut

In 2016, Hartford eliminated minimum parking requirements in its central business district and reduced the requirements near transit hubs. Almost two years later, in 2017, the city eliminated minimum parking requirements citywide. The current code also includes maximum parking allowances for most land use types and provisions for shared parking by time of day. The planning and zoning commission chair cited the City's commitment to multimodal transportation and making the city more attractive to developers through lower costs and added flexibility (31).

Lowell, Massachusetts

Lowell's zoning code allows for shared parking among different land uses based on charts showing the percentage of its minimum requirements that must be satisfied for each use by time of day and day of the week. In certain zones, parking requirements may also be satisfied by leasing spaces in publicly-owned facilities located up to 1,500 feet of the site's entrance. In other districts, the required parking facilities may be anywhere from 400 to 1,500 feet from the site.

The best practices identified above demonstrate the ways parking and loading policies are thoughtfully addressed in Honolulu County and throughout the U.S. Although some are more applicable to the context in Honolulu than others, all reflect the varying demand for parking and loading across different zones, increasing trends in multimodal transportation, and ongoing demand for affordable housing.

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Appendix: Zoning code excerpts

Honolulu County, Hawaii

Loading Requirements

Sec. 21-6.100 Off-street loading requirements.

Off-street loading requirements shall apply to all zoning lots exceeding 5,000 square feet in area for the class or kind of uses indicated below. The minimum number of off street loading spaces shall be as follows:

Use or Use Category	Floor Area in Square Feet	Loading Space Requirements
A. Retail stores, eating and drinking establishments, shopping centers, wholesale operations, warehousing, business services, personal services, repair, manufacturing, and self-storage facilities	2,000 - 10,000	1
	10,001 - 20,000	2
	20,001 - 40,000	3
	40,001 - 60,000	4
	Each additional 50,000 or major fraction thereof	1
B. Hotels, hospitals or similar institutions, and places of public assembly	5,000 - 10,000	1
	10,001 - 50,000	2
	50,001 - 100,000	3
	Each additional 100,000 or major fraction thereof	1
C. Offices or office buildings	20,000 - 50,000	1
	50,001 - 100,000	2
	Each additional 100,000 or major fraction thereof	1
D. Multifamily dwellings	Number of Units	
	20 – 150	1
	151 – 300	2
	Each additional 200 or major fraction thereof	1

Hawaii County, Hawaii

Loading Requirements

Use or Use Category	Floor Area in Square Feet	Loading Space Requirements
1. Commercial and industrial uses, including retail and wholesale operations, eating and drinking establishments, business services, personal services, repair, manufacturing and self storage facilities, but excluding offices	5,000 – 10,000	1
	10,001 – 20,000	2
	20,001 – 30,000	3
	30,001 – 40,000	4
	40,001 – 60,000	5
	Each additional 50,000 or major fraction thereof	1
2. Hotels, hospital or similar institutions, and places of public assembly	5,000 – 10,000	1
	10,001 – 50,000	2
	50,001 – 100,000	3
	Each additional 100,000 or major fraction thereof	1
3. Offices or office buildings	20,000 – 50,000	1
	50,001 – 100,000	2
	Each additional 100,000 or major fraction thereof	1
4. Multiple-family dwellings	Number of Units	
	20 – 150	1
	151 – 300	2
	Each additional 200 or major fraction thereof	1

Seattle, Washington
 Loading Requirements

Table A for Section 23.54.035

Type of Use	Square Feet of Aggregate Gross Floor Area	Required Number of Loading Berths
Low Demand	40,000 to 60,000	1
	60,001 to 160,000	2
	160,001 to 264,000	3
	264,001 to 388,000	4
	388,001 to 520,000	5
	520,001 to 652,000	6
	652,001 to 784,000	7
	784,001 to 920,000	8
	For each additional 140,000	1 additional berth
Medium Demand	10,000 to 60,000	1
	60,001 to 160,000	2
	160,001 to 264,000	3
	264,001 to 388,000	4
	388,001 to 520,000	5
	520,001 to 652,000	6
	652,001 to 784,000	7
	784,001 to 920,000	8
	For each additional 140,000	1 additional berth
High Demand	5,000 to 16,000	1
	16,001 to 40,000	2
	40,001 to 64,000	3
	64,001 to 96,000	4
	96,001 to 128,000	5
	128,001 to 160,000	6
	160,001 to 196,000	7
	For each additional 36,000	1 additional berth

Table for Section 23.54.035 A

Low Demand	Medium Demand	High Demand
Animal services	Agricultural uses	Airport, land-based
Business incubator	Airport, water-based	
	Assisted living facilities	
Business support services	Automotive parts or accessory sales	Cargo terminals
Car wash	Eating and drinking establishments	Commercial laundries
Custom and craft work	Heavy commercial services except commercial laundries and construction services	Construction services
	Institute for advanced study	Food processing for human consumption
Entertainment uses	Mini-warehouse	High-impact uses
Gas station	Mortuary services	Hospitals
Helistop and heliport	Passenger terminal	Manufacturing
Institutions, except hospitals and institutes for advanced study		
Lodging	Personal and household retail sales and services	Outdoor storage
	Recycling collection stations	Recycling center (separate facilities)
Marine retail sales, services	Research and development laboratory	Sale of heating fuel
Medical services	Sales, service and rental of equipment	Sales, service and rental of commercial equipment and construction materials
Offices		
	Transit vehicle base	Salvage yard
Personal transportation services	Utilities	Warehouse
Sales and rental of motorized vehicles	Vehicular repair, major and minor	Wholesale showroom
Towing services		

Hartford, Connecticut

Sharing by time period

PARKING TIME PERIODS PER USE						
Use Category	Weekdays			Weekends		
	Midnight-7:00 am	7:00 am-6:00 pm	6:00 pm-Midnight	Midnight-7:00 am	7:00 am-6:00 pm	6:00 pm-Midnight
Residential	100%	50%	80%	100%	80%	80%
Retail & Service	5%	100%	80%	5%	100%	60%
Hotel & Inn	100%	65%	100%	100%	65%	100%
Assembly	0%	30%	50%	0%	100%	75%
Eating & Drinking Establishment	50%	70%	100%	70%	60%	100%
Office	5%	100%	5%	5%	5%	5%
Theater / Entertainment	5%	30%	100%	5%	80%	100%

Figure 7.2-C Parking Time Periods per Use

Loading Requirements

REQUIRED LOADING FACILITIES	
Gross Floor Area	Loading Spaces Required
0-1,400 square feet	0 spaces
1,401-20,000 square feet	1 space
20,001 to 100,000 square feet	One space plus one space for every 20,000 square feet in excess of 20,000 square feet
100,001-500,000 square feet	5 spaces plus one space for every 40,000 square feet in excess of 100,000 square feet
500,001+	15 spaces plus one space for every 80,000 square feet

Figure 7.4-A Required Loading Facilities.

Lowell, Massachusetts

Parking requirements with shared parking chart (partial list)

6.1.4 **Table of Parking Requirements.** Off-street parking facilities shall be provided as follows. All requirements based on square footage refer to gross floor area unless otherwise noted. The shared parking chart identifies the percentage of the established required parking spaces that must be provided for each time period in shared parking situations.

	Zone	Min. Parking Req.	Notes	Shared Parking Chart					
				Weekdays 8AM-5PM	Weekdays 6PM- 12AM	Weekdays 12AM- 6AM	Weekends 8AM- 5PM	Weekends 6PM- 12AM	Weekends 12AM- 6AM
1. RESIDENTIAL USES									
a. Single-family detached dwelling occupied by not more than one family	Where Permitted	2 spaces per dwelling unit (du)	plus 2 spaces for each curb cut above one per 10 dwelling units	60	100	100	80	100	100
b. Two family attached or semi-detached dwelling	Where Permitted	2 spaces per du							
c. Multi-family dwelling including 3-6 units	DMU	1 space per du							
	All other permitted zones	.75 spaces per bedroom or 2 spaces per du, whichever is greater [Ord. 4-18-06]							
d. Multi-family dwelling including 7 or more units	DMU	1 space per du							
	All other permitted zones	.75 spaces per bedroom or 2 spaces per du, whichever is greater [Ord. 4-18-06]							
e. Townhouse Development including 3-6 units	Where Permitted	.75 spaces per bedroom or 2 spaces per du, whichever is greater [Ord. 4-18-06]							
f. Townhouse Development including 7 or more units	Where Permitted	.75 spaces per bedroom or 2.2 spaces per du, whichever is greater [Ord. 4-18-06]							
g. One or two dwelling units in a building with a legal non-residential use on the ground floor.	Where Permitted	2 spaces per du							
h. Senior Congregate Housing, including, but not limited to, assisted living facilities.	Where Permitted	1 space per du							

	Zone	Min. Parking Req.	Notes	Shared Parking Chart					
				Weekdays 8AM-5PM	Weekdays 6PM- 12AM	Weekdays 12AM- 6AM	Weekends 8AM- 5PM	Weekends 6PM- 12AM	Weekends 12AM- 6AM
i. Non-family accommodations:									
1. Tourist home; Bed and Breakfast Inn	Where Permitted	1 space per room	Plus requirements for other uses, such as restaurant or lounge	70	100	100	70	100	100
2. Boarding or Lodging house, fraternity	Where Permitted	1 space per 2 beds		80	100	100	80	100	100
3. Dormitory	Where Permitted	1 space per 2 beds		80	100	100	80	100	100
4. Hotel	Where Permitted	1 space per room		70	100	100	70	100	100
5. Motel	Where Permitted	1 space per room		70	100	100	70	100	100
j. Boarding Room in Private Residence	Where Permitted	1 space per room		60	100	100	80	100	100

2. CONVERSION OF DWELLING STRUCTURE									
a. Existing single family detached dwelling converted for not more than two families	Where Permitted	2 spaces per du		60	100	100	80	100	100
b. Other dwellings converted for more than two families	DMU	1 space per du		60	100	100	80	100	100
	All other permitted zones	.75 spaces per bedroom or 2 spaces per du, whichever is greater [Ord. 4-18-06]							

3. INSTITUTIONAL, RECREATIONAL & EDUCATIONAL USES									
a. Use of land or structures for exempt religious purpose.	Where Permitted	1 space per 100 sq ft		10	5	5	100	50	5
b. Preschool, Elementary, or Junior High School	Where Permitted	3 spaces per 2 instructional rooms		100	50	5	10	5	5
c. High School	Where Permitted	6 spaces per instructional room		100	50	5	10	5	5
d. Licensed child care facility operated independent of a private residence (2)	Where Permitted	3 spaces per 2 instructional rooms		100	20	5	10	10	5

Loading Requirements

6.2.4 Table of Loading Requirements. Off-street loading facilities shall be provided for the following specified uses:

	<i>Number of Bays Required for New Structure By Gross Floor Area of Structure (in thousands of square feet)</i>					
	<i>Under 5</i>	<i>5--50</i>	<i>51--100</i>	<i>101--150</i>	<i>151--300</i>	<i>Over 300 (for each additional 150)</i>
Retail trade						
Wholesale and storage						
Transportation terminal	0	1	2	3	4	1
Manufacturing						
Public utility						
Consumer services						
Office building						
Hotel, motel, dormitory	0	1	1	2	3	1
Recreation						
Research laboratory						
Institution	0	0	1	1	2	1

Cambridge, Massachusetts

Parking requirements (partial list)

Land Use Category	Open Space, Res A-1, A-2, Res B	Res C, C-1, C-1A, Off 1, Bus A (Comm), Bus A- 1, A-2, Bus A-3 ¹⁴ , A-4, Ind A-1, Ind B-2, Ind C	Bus. C, C-1, Ind A, Off 2, 2A, Res C-2, C-2A, Res C-2B, Bus A (res)	Ind B-1, Res C-3, C-3A, C-3B, Off 3-A, 3, Bus B, Ind A-2, Ind B, Bus B-1, B-2	Loading Facility Category	Long-Term Bicycle Parking (6.107.2)	Short-Term Bicycle Parking (6.107.3)
6.36.1 Residential Uses							
a. Detached dwelling occupied by not more than one family	1 per d.u.	1 per d.u.	1 per d.u.	1 per d.u.	n/a	R1	R1
b. Two family dwelling	1 per d.u.	1 per d.u.	1 per d.u.	1 per d.u.	n/a	R2	R2
c. Existing one-family detached dwelling converted for two families	1 per d.u.	1 per d.u. ¹	1 per d.u. ¹	1 per d.u. ¹	n/a	R1	R1
d. Townhouse development ²	1 per d.u. ³	1 per d.u. ³	1 per d.u.	1 per d.u.	n/a	R2	R2
e. Elderly oriented housing, elderly oriented congregate housing	1 per 2 d.u.'s ⁴	1 per 2 d.u.'s ⁴	1 per 2 d.u.'s ⁴	1 per 2 d.u.'s ⁴	n/a	R3	R3
f. Existing dwelling converted for elderly oriented congregate housing	1 per 2 d.u.'s ⁴	1 per 2 d.u.'s ⁴	1 per 2 d.u.'s ⁴	1 per 2 d.u.'s ⁴	n/a	R3	R3
g. Multifamily dwelling	n/a	1 per d.u. ³	1 per d.u.	1 per d.u.	n/a	R2	R2
h. Existing dwelling converted for more than two families	n/a	1 per d.u. ¹	1 per d.u. ¹	1 per d.u. ¹	n/a	R2	R2
i. Transient and nonfamily accommodations							
1. Tourist house in an existing dwelling	n/a	1 per d.u. + 1 per 4 guest rooms	1 per d.u. + 1 per 4 guest rooms	1 per d.u. + 1 per 4 guest rooms	n/a	R5	R5
2. Hotel	n/a	1 per 2 sleeping rooms ⁵	1 per 2 sleeping rooms ⁵	1 per 2 sleeping rooms ⁵	E	R5	R5
3. Motel	n/a	1 per motel unit ⁵	1 per motel unit ⁵	1 per motel unit ⁵	E	R5	R5
4. Lodging House	n/a	1 per 4 bedrooms + one	1 per 4 bedrooms + one	1 per 4 bedrooms + one	E	R4	R4
j. Trailer park or mobile home park	n/a	1 per d.u.	1 per d.u.	n/a	n/a	R2	R2
6.36.2 Transportation, Communication & Utility Uses							
a. Bus or railroad passenger station	n/a	1 per 300 sq. ft.	1 per 500 sq. ft.	1 per 900 sq. ft.	n/a	N5	N3
b. Automobile parking lot or parking garage for private passenger cars	n/a	n/a	n/a	n/a	n/a	P	P
c. Railroad freight terminal, railroad yards and shops	n/a	n/a	n/a	1 per 2400 sq. ft.	A	N5	N5

Loading Requirements

6.83 Minimum Number of Off Street Loading Bays

Gross Floor Area (in thousands of square feet)

Loading Facility Category	Area at which First Bay is Required	Area at which Second Bay is Required	Incremental Area for which Each additional Bay is Required Beyond the Second
A	5	40	50
B	10	20	50
C	10	25	40
D	10	40	50
E	10	100	100
F	10	100	200

Sacramento, California

Parking requirements (partial list)

Land Use	Central Business and Arts & Entertainment District	Urban District	Traditional District	Suburban District
1. Residential Uses				
Single-unit, duplex dwelling	No minimum requirements	1 space per dwelling unit, except on lots equal to or less than 3,200 square feet in the Central City, where there is no minimum requirement	1 space per dwelling unit, except on lots equal to or less than 3,200 square feet in the Central City, where there is no minimum requirement	1 space per dwelling unit
Secondary dwelling unit	No minimum requirements	No minimum requirements	No minimum requirements	No minimum requirements
Multi-unit dwelling (3 units or more)	No minimum requirements; maximum 1 space per dwelling unit	0.5 space per dwelling unit	1 space per dwelling unit	1.5 spaces per dwelling unit
Fraternity or sorority house; dormitory	No minimum requirements	1 space per 3 occupants	1 space per 3 occupants	1 space per 3 occupants
Residential hotel (SRO)	No minimum requirements	1 space per 10 dwelling units, plus 1 space for manager	1 space per 10 dwelling units, plus 1 space for manager	1 space per 10 dwelling units, plus 1 space for manager
2. Commercial Uses				
Auto sales lot	No minimum requirements; maximum 1 space per 400 gross square feet of building	1 space per 2,000 gross square feet of building	1 space per 500 gross square feet of building	1 space per 500 gross square feet of building
Bed and breakfast inn	No minimum requirements; maximum 1 space per 400 gross square feet of building	1 space for resident owner, manager	0.5 space per 2 guest rooms, plus 1 space for resident owner, manager	1 space per 2 guest rooms, plus 1 space for resident owner, manager
Commercial services (except those specifically included in table)	No minimum requirements; maximum 1 space per 400 gross square feet of building	1 space per 2,000 gross square feet of building	1 space per 500 gross square feet of building	1 space per 500 gross square feet of building
Hotel	No minimum requirements; maximum 1 space per 400 gross square feet of building	No minimum requirements	1 space per 4 guest rooms, plus parking for additional services (conference center, restaurant, etc.)	1 space per 2 guest rooms, plus parking for additional services (conference center, restaurant, etc.)
Motel	No minimum requirements; maximum 1 space per 400 gross square feet of building	1 for resident owner, manager	1 space per 2 guest rooms	1 space per guest room
Office; medical clinic or office	No minimum requirements; maximum 1 space per 400 gross square feet of building	1 space per 2,000 gross square feet of building; maximum 1 space per 250 gross square feet of building	1 space per 500 gross square feet of building; maximum 1 space per 250 gross square feet of building	1 space per 400 gross square feet of building; maximum 1 space per 250 gross square feet building
Restaurant; bar; brew pub; wine bar	No minimum requirements; maximum 1 space per 400 gross square feet of building	1 space per 2,000 square feet of building	1 space per 500 square feet of building	1 space per 125 gross square feet of building; up to 10% of total building area of a shopping center may be used as restaurant(s) and bar(s) with the parking based on the shopping center as a whole, rather than the above requirements based on square footage of the restaurant or bar
Retail store	No minimum requirements; maximum 1 space per 400 gross square feet of building	1 space per 2,000 square feet of building	1 space per 500 square feet of building	1 space per 400 gross square feet of building
Warehouse retail	No minimum requirements; maximum 1 space per 400 gross square feet of building	Same as "retail store," except if 50% or more of gross square feet of building is used for warehouse, then retail area shall meet retail ratio, and warehouse area shall meet warehouse ratio	Same as "retail store," except if 50% or more of gross square feet of building is used for warehouse then retail area shall meet retail ratio, and warehouse area shall meet warehouse ratio	Same as "retail store," except if 50% or more of gross square feet of building is used for warehouse then retail area shall meet retail ratio, and warehouse area shall meet warehouse ratio

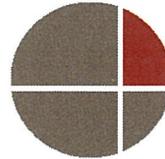
Washington, District of Columbia
Parking requirements (partial list)

TABLE C § 901.1: LOADING BERTHS AND SERVICE/DELIVERY SPACES

Use	Minimum Number of Loading Berths Required	Minimum Number of Service/Delivery Spaces Required
Agriculture	None	None
Animal sales, care and boarding		
5,000 to 20,000 sq. ft. gross floor area	1	None
More than 20,000 to 100,000 sq. ft. gross floor area	2	1
More than 100,000 sq. ft. gross floor area	3	1
Antennas	None	None
Arts, design and creation		
5,000 to 20,000 sq. ft. gross floor area	1	None
More than 20,000 to 100,000 sq. ft. gross floor area	2	1
More than 100,000 sq. ft. gross floor area	3	1
Basic utilities		
20,000 to 50,000 sq. ft. gross floor area	1	1
More than 50,000 to 200,000 sq. ft. gross floor area	2	1
More than 200,000 sq. ft. gross floor area	3	1
Chancery		
30,000 to 100,000 sq. ft. gross floor area	1	1
More than 100,000 sq. ft. gross floor area	2	1



Smart Growth America
Improving lives by improving communities



**GOVERNORS'
INSTITUTE**
on community design

FBCI Form-Based
Codes Institute



State
Smart Transportation
Initiative

DOVER, KOHL & PARTNERS
town planning

Summaries of Stakeholder Engagement

Off-Street Parking & Loading Sections
Land Use Ordinance for City & County of Honolulu, Hawaii

April 5, 2019

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Background

Parking is an issue that touches every part of the community and smarter parking policies have the potential to significantly reduce vehicle miles traveled, increase multi-modal transportation, help the State of Hawaii achieve its clean energy goals, and ultimately improve air quality. Elected leaders, merchants, real estate developers, office workers, retired citizens, and families with children are affected by and have a perspective on decisions about parking.

On December 10, 2019, the Governors' Institute on Community Design (GICD) team met by phone with the City's Complete Streets team to brief them on the project and hear their thoughts on the challenges provided by the current off-street parking and loading regulations in the Honolulu Land Use Ordinance (LUO). Members of the GICD team traveled to Honolulu January 7-10, 2019 to hold in-person interviews with representatives of five different interest groups and facilitate a Stakeholders Workshop to test the conclusions drawn from the interviews. The Department of Planning and Permitting and the Sustainable Transportation Coalition of Hawaii (STCH) assembled the invitation lists for the group interviews and Stakeholder Workshop. All of the people who contributed during Phase I LUO Update - Outreach effort were invited. DPP sent initial invitations, the GICD team followed up with email calendar invitations for the group interviews and the Stakeholder Workshop to track responses and STCH sent a reminder to all Workshop invitees. After the site visit, the GICD team collected additional feedback via email and conducted ten (10) interviews with key stakeholders by phone.

Group Interviews

During the January visit, GIDC team members met with representatives from the following interest groups:

- City and State Department Staff
- Business and Commerce Community
- Community Organizations and Advocacy Groups
- Real Estate Agents and Planning Consultants
- Public Transportation Professionals

In each group interview, team members used the following questions to guide the discussion:

1. What do you think are the most significant problems with the current regulations for off-street parking and loading?
2. What improvements would you propose and why?
3. What do you believe are the most significant obstacles to making these improvements?
4. What would be the most compelling arguments to advocate for these changes and overcome these obstacles?
5. What is the most crucial concern for us to address in our recommendations for updating the ordinance?

In all, more than forty people attended the group interviews to provide their perspective on off-street parking and loading regulations. These attendees are identified in Appendix A.

Following the interviews, the GICD team put together a PowerPoint presentation (see Appendix B) for the Stakeholders Workshop to set the stage for a discussion on perceived problems and suggested solutions. These included the following:

Perceived Problems

- The rules are too scattered among the regulatory documents.
- More detailed standards are needed to improve the appearance of surface parking lots and structures – landscape, screening, liner buildings, and habitable space.
- Off-street parking requirements are inconsistent with other City and State policy goals.
- Different types of places should have different parking requirements.
- There is not good data on current and future supply of and demand for off-street parking.
- Developers need a regulatory process to provide less than the minimum required parking when the market reflects less demand.
- Front-end entrance and exit policies for loading require too much of the ground-level real estate and limits frontage available for street front activation.
- Loading bays are too large and ugly.
- Loading regulations require dedication of too much space.

Suggested Solutions

- Add environmental, energy conservation, and climate change goals into the introduction to Article 6: Off-Street Parking and Loading.
- Conduct an inventory of off-street parking stalls.
- Better calibrate regulations to type of location, demographics (price point and household size), and use.
- Incorporate floor area used for parking into FAR.
- Incentivize shared parking, both in urbanized areas and in neighborhood centers.
- Improve the streetscape by setting higher design standards for surface and structure parking facilities, reconsidering bulk and siting requirements and requiring liners on key streets.
- Unbundle the cost of parking stalls from the price of residential units.
- Incentivize pooled parking.
- Implement a mobile parking app.
- Require parking structures to be convertible to other uses.
- Offer incentives for developers to provide space for private car shares (Hui) or sponsored (hotel) car share.
- Increase distances for off-site parking minimums. How far is acceptable?
- Provide standards and establish a transparent process for allowing developers to provide less than the minimum parking requirements.



Stakeholders Workshop

On January 11, 2019, GICD team members facilitated a Stakeholders Workshop for individuals invited to the group interviews. Representatives from other stakeholder groups also were invited to participate. Between 60 and 70 people attended the workshop.

During the workshop, participants were presented with the list of perceived problems and suggested solutions that emerged during the group interviews. Participants then worked in small groups to identify their top three or four problems or solutions from among the list, or in addition to those listed.

The following problems were identified as most important:

- The limit of 400 feet for proximity of parking to meet the minimum parking requirement makes shared parking difficult to achieve.
- Parking requirements should be more specifically tailored to different uses.
- Off-street parking intent is inconsistent with General Plan, Development Plan, and Sustainable Community Plan goals.
- Parking regulations are not consistent with market demand.
- Bundling parking in residential pricing skews the market demand for parking.
- There is currently no ability to track number of off-street parking stalls, or to direct people to them.
- There is a need to distinguish between tourist and residential parking.
- There is currently no transportation demand management program to determine who should pay for parking or what the price should be.
- Parking facilities need to be better maintained over time.
- Bike parking needs to be a higher priority.
- There is not sufficient information on how the supply of off-street parking impacts on-street parking.
- Developers need more flexibility in the design of off-street parking facilities.
- Parking should not drive the design of our communities.
- More shared off-street parking.
- Not enough off-street loading zones.
- There is a need for more shared loading space.

Workshop participants were also asked to identify problems in specific districts across Oahu. The following concerns were identified:

- Off-street parking pricing in Waikiki is inconsistent.
- Waikiki needs different off-street parking standards.
- Older apartments and more established districts have insufficient off-street parking and off-street space for maneuvering.
- A cap on number of stalls in Kakaako is needed.



- Parking shortages limit access to natural attractions like Turtle Beach or the North Shore.
- Current off-street parking and the shortage of shared parking facilities in the CBDs undermine the walkability in these areas.
- Parking design in Kapolei is based on a suburban model, creating challenges for placemaking and walkability.

Workshop participants identified the following solutions as most important:

- Maintain an inventory of all publicly available off-street and on-street parking stalls and make the information available to drivers through an app.
- Remove obstacles and provide incentives to developers to build and participate in shared parking.
- Improve the streetscape to make it more inviting and accessible to walking and biking.
- Unbundling the price of parking from residential units to make the market work more efficiently (may result in security and liability concerns.)
- Calibrate parking regulations to better fit the features of different locations. Begin with one or two districts as a demonstration, before rolling it out across the City.
- Increase the distance to off-site stalls that meet the parking minimums to 900 feet or ¼ mile in order to encourage shared parking.
- Encourage or require permeable parking surfaces.
- Encourage or require more bike parking.
- Eliminate parking minimum requirements.
- Institute parking permits for off-street parking facilities.
- Encourage or require convertible design for parking facilities. First conduct analysis to determine to actual impact on the cost of housing and incorporate those findings into the policies.
- Relax loading requirements for multifamily development.
- Create more options for transporting kids, the elderly, and other non-drivers.
- Allow more floor/area ration (FAR) for projects that offer accommodations for bike parking, ride-share loading and unloading, and car shares.
- Consider form-based codes as a solution to complexity.
- Create a cross-department parking group in City Staff to address cross-cutting issue related to parking.
- Include parking in FAR calculations.
- Implement an app where driver can find and pay for parking.
- Allow for multi-use space that can be used for loading at certain times of the day.
- Create a process that developers can follow to waive parking minimums under certain circumstances, and specify the measures required to receive that waiver.
- Encourage the use of automated parking to better manage space.
- Clarify placemaking goals and requirements for streetscape features to activate the street – examples include requiring liner buildings on parking structures and parking located behind or on the side of buildings.
- Increase requirements for electric vehicles.

- Locate private car share space off the street.
- Add climate change and transparency to the objectives of Article 6.
- Improve design standards for parking lots and structures.
- Revise parking standards for schools.

Additional Feedback Received via Email

On January 10, the GDIC Team reached out to all 184 individuals who were invited to the Workshop to solicit additional feedback. A second email was sent to those who had not responded on January 15. Eleven (11) individuals responded. Their feedback is summarized below.

Individuals were first asked to comment on the solutions discussed during the Stakeholders Workshop and to identify which they found most practical. The general consensus supported four general categories: shared parking, unbundling parking from development, contextual parking standards, and incorporating environmental goals into the LUO.

Incentivized, shared parking was commonly referred to as a solution in urbanized and commercial areas within Honolulu, especially during off-peak hours. There was broad agreement that this type of initiative would minimize short trips to other parking facilities and create space for bike and car share. Many respondents also emphasized the idea to unbundle parking from development and make it easier to waive parking minimum requirements.

Place-based policies for parking were also supported by several email respondents. Many cited the need for practical requirements that respond to the intensity of development and population, such as rural areas being treated differently than the urban core. Similarly, the cost of parking should be reflective of the context across the island, but never subsidized or free. Some also expressed interest in a parking app in order to manage parking in urban areas and many pointed to incorporating environmental goals into the introduction and purpose of the LUO.

In general, email respondents expressed clear support for the solutions brought up during the Stakeholders Workshop, while sharing additional ideas for revising off-street parking and loading policies. Respondents suggested incentivizing developers to provide alternative modes of transportation for residents and customers, particularly for the low-income, elderly, and disabled populations. They also suggested increasing on-street parking, adjusting the floor area ratios on parking, and setbacks for parking structures for liner buildings, similar to those that HCDA adopted for Kakaako (**Chapter 217 Mauka Area Rules Figure 1.10 Parking Placement**). Others suggested that the City reconsider parking requirements related to vacation rentals and accessory units to reflect both owner and renter/guest parking demand.

Several pointed out that convenient, alternative modes of transportation will play a vital role in remedying off-street parking and loading issues; and several comments addressed the need to complete the planned rail line and increase the ease of navigation for bus service to effectively absorb commuters and single-purpose trips. The comprehensive implementation of these additional transportation services, as well as an increased bike and car sharing program, they suggested is the only way to minimize car usage for university students, day-care pickup, and daily errands.

Other proposed solutions include the following:

- Create an asset inventory of all off-street parking stalls, especially off-site spaces tied to a particular development. When the parcel with the off-site spaces is redeveloped, the parking requirement for the nearby development (that flows with the land court document) is unbundled and the overall parking supply is reduced.

- The restricted parking zones in residential neighborhoods requires City resources and is often underfunded and understaffed. A new program, with a dedicated, currently non-existent, source of funding, should be developed.
- Green infrastructure should be incorporated into parking structures.
- The City should consider changes to the current LUO size requirements and Traffic Review Branch requirements for loading vehicles to exit in a forward manner. Alternative solutions could include: allowing parking stalls to be used as loading/maneuvering areas (dual use) and leave it up to the property owner to determine delivery times which do not impact their business/sale and allowing the developer/owner to determine the number and size of loading stalls their operations will require.

Many of the respondents expressed their belief that a combination of solutions (i.e. unbundling, eliminating parking minimums, place-based standards would be most effective in alleviating existant problems with off-street parking and loading.

Summary of Individual Interviews

The SGA staff conducted ten (10) additional interviews by telephone. The primary purpose of these interviews was to get additional input from the private sector – developers and investors – on off-street parking and loading regulations. Those interviewed were asked share their thoughts on:

- Parking minimum and maximum requirements
- Shared parking – between projects and between uses
- Design of parking facilities – electric cars and convertibility to other uses
- Lining the street front of parking facilities with habitable buildings
- Freight loading and unloading
- Passenger pick-up and drop off

The following people were interviewed:

- Sergut Berhanu and Carson Schultz – Hawaii Community Development Authority
- Brian Brennan – American Savings Bank of Hawaii
- Christine Camp – Avalon Development
- Kevin Carney – EAH
- Stanford Carr and Dick Riegels
- Keith Kurahashi – RM Towill
- Bob Oda – Kamehameha Schools
- Race Randle – Howard Hughes Corporation
- Lance Watanabe – DPP Traffic Review Office
- Elton Wong – Kobayashi MacNaughton Group

Amount of Parking Required (Minimums and Maximums)

The majority of the people interviewed stated that they take into account the context when they are considering parking needs and supply. The context depends on: 1) whether the units are rental or for-sale; 2) the location of the project; 3) the target buyer's profile; and 4) availability of other transportation options. In commercial projects, the demand for parking varies by location and specific type of commercial use but, generally, the City's minimums are more in line with what developers believe is needed.

Some investors commented that, because their decision of whether and how to finance a project is determined by the number of pre-sales, the amount or means for providing parking does not influence their decision on project financing. Others suggested that they look for ratios of at least one stall per unit. However, they will consider less than a 1:1 ratio if the area is walkable or bikeable, there is a bus station in front of the building, or transit is anticipated in the near future.

Developers of elderly affordable housing commented that the minimum parking requirements make it impossible to deliver affordable units, by right, on privately-owned parcels and that waivers are difficult to get, as they require legislative approval. They suggest, instead, that this kind of waiver should be written into the revised LUO. But with affordable housing for younger families, most will require parking because of the need to ferry children to school and after school activities and because they often work far from home.

In general, most interviewees recommend that parking minimums be eliminated for residential development. They recommend, instead, that the developer of the project decide how much parking to provide, based on their estimation of the market. Even the few who see the value of some minimum requirements to protect the surrounding neighborhood, believe that the current minimums are too high. Generally, there was agreement that, if minimums remained in the code, they should be based on number of bedrooms in residential buildings, rather than square footage. It was also suggested that space for bike- and car-sharing count toward parking minimums. There was almost no support for parking maximums. However one respondent said that if there was a "level playing field" with regard to maximums, it would be acceptable.

Most of those interviewed said that in for-sale projects, except in some cases where eligibility is limited by income, they assign spaces – generally one space for studio and one-bedroom units, two spaces for units of two bedrooms or more.

The majority of those interviewed assume that, once METRO is open, the market will demand less parking and they can build fewer stalls per unit. However projects that sell or lease before the transit system opens still need to provide one to two stalls per unit to be competitive in the market.

HCDA, over all, is trying to reduce parking in Kakaako. They are using several techniques to do this – shared parking, lower or no parking requirements in some districts, unbundling parking from the price of for-sale units, requiring liners – and considering others like requiring convertible structures and eliminating the parking minimum all together.

Shared Parking

All interviewees agreed that the City should encourage the use of shared parking facilities. However, the feasibility of sharing varies between sharing among uses within a project and sharing parking among projects.

Shared parking across uses is challenging, especially in for-sale projects because residents expect to have a secure, assigned space, available to them on a 24 hour-7 day a week basis. Respondents explained that, in these cases, the structures themselves may be shared but spaces for private residents are only accessible with a fob or access code. The public section of the structure often is available free and available to commercial and retail customers, resident employees and guests, ride-share providers and other non-resident users. When developers provide shared parking in a mixed-use project, the City should provide a "discount" on the minimum requirements.

When parking facilities are shared by more than one property, all agreed that an acceptable distance to expect people to walk to their destination is about a quarter of a mile or about 1,320 feet. HCDA's required distance for shared parking in Kakaako is 1200 feet and, for smaller projects, HCDA allows developers to count proximate street parking to help meet the minimum requirement.

Parking Pricing -- Bundling

Most developers of for-sale structures include the price of at least one parking stall in the price of the unit – bundling. When only one is included, others are available to purchase on a discounted basis. Developers are more willing to support “unbundling” the parking from the rent of a unit in rental properties. There also was more support for unbundling, if it was a requirement across the City, including in Kakaako.

Liner Buildings

Generally, developers and investors are in favor of providing liner buildings on parking structures, especially on primary streets, if the size and configuration of the lot can accommodate them. But they prefer that they are optional or incented, rather than required. HCDA requires a 40-foot setback for parking structures, which must include an active use liner (residential or retail) between the parking lot and the street. While they have received some resistance from some developers on this requirement, they have ultimately achieved this on every project, with the exception of a few on small lots where they have granted variances. One developer stated that there should be incentives in the zoning ordinance to encourage the construction of liners – townhouses, live/work, commercial – or screens in areas designated as walkable.

Convertible Design for Parking Structures

In general, developers and investors did not see much advantage in building parking structures that easily can be converted to other uses, if and when there is less demand for parking. They point out that, in for-sale products, they would be out of the ownership position long before any such renovation would occur so there is no financial advantage to incurring the extra cost of a convertible structure. Also, because stalls are generally sold with the unit, this multiple ownership of parking structures could create an obstacle for redevelopment.

In residential rental or commercial products, interviewees explain that when the condition of the structure and the market indicate that it's time to redevelopment, it is likely to be just as economical to tear down the structure and build something else. There is also a concern that they might not get additional density approved, when they are ready to convert a residential garage so they are not inclined to make the additional investment.

One developer suggested that convertible parking structures could be encouraged through tax incentives, for example reducing property taxes by five percent in the first three year that the project is open.

The one exception to this is projects near future transit station areas, where the demand for parking is expected to go down in the near future. In some of these projects – Campbell Place, for example – developers may build parking where the ground floor can be converted, once the transit line is open.

Freight Loading and Unloading

All of those interviewed said that the amount of space required for freight loading and unload is an “onerous” burden. The current LUO provisions require too much of the ground floor area. These requirements make it challenging to site and design the project while significantly limiting opportunities for more active uses on the ground floor. This is especially true for smaller properties, sometimes making them impossible to develop at all. Instead, interviewees suggest that trucks be allowed limited use of the public right of way for maneuvering. These

limits could be by time of the day, on certain streets – which could be color-coded – and/or in certain parts of the city – for example industrial districts.

Interviewees also stated that the City should allow for shared loading spaces among adjacent or proximate properties, when there is an agreement between owners. In Kakaako, the HCDA regulations allow for shared loading between residential and commercial uses.

Several of those interviewed suggested that residential buildings rarely, if ever, need space for the largest trucks, yet, because the requirements are based on square footage of a development, they are required to build larger bays, than they need. The number and size of bays, they suggest, should be based more on use than just square footage. Also for residential buildings, loading spaces sit empty most of the time and often are not used at all for multiple days at a stretch.

Passenger Pick-Up and Drop-Off

Most high-rise residential buildings have porte-cocheres where passengers can be picked-up and dropped off. Smaller, walk-up residential properties often have no drop-off space. Some of those interviewed suggested that these kinds of spaces could be required for larger projects. If they are large enough and configured correctly, these spaces might also be used for car-sharing or freight loading and unloading.

Transportation Demand Management

A few of those interviewed mentioned that they would be willing to conduct a more rigorous demand analysis if the LUO allowed them to provide less parking, if this was indicated by such a study.

Conclusion

While the ideas and suggestions raised in the group interviews, Stakeholders Workshop, email feedback, and phone interviews must be considered in light of current law and established policies, best practices and available data, the discussions summarized in this document offered an excellent opportunity to brainstorm ideas and gain a sense of what stakeholders are thinking. The concerns and suggestions they raised will be considered as the GICD team prepares its recommended revisions to the off-street parking and loading regulations.

Appendix A: Community Engagement Participants

BUSINESS & COMMERCE COMMUNITY

First Name	Last Name	Organization	Focus Group	Workshop
Katia	Balassiano	DPP Land Use Permits	Yes	Yes
Jennifer	Camp	NIAOP Hawaii	Yes	
Linda	Frysztacki	WESLIN	Yes	Yes
Jim	Fulton	Waikiki Transportation Mgmt Association	Yes	Yes
Julie	Yamamoto	Hui Car Share	Yes	Yes

COMMUNITY ORGANIZATIONS & ADVOCACY GROUPS

First Name	Last Name	Organization	Focus Group	Workshop
Daniel	Alexander	Hawaii Bicycling League	Yes	Yes
Katia	Balassiano	DPP Land Use Permits	Yes	Yes
Jackie	Boland	AARP	Yes	
Greg	Gaug	Ulupono	Yes	
Tyler	Gomes	Elemental Excelsior	Yes	Yes
Chris	Johnson	Hawaii Public Health Institute	Yes	Yes
Peggy	Mierzwa	Blue Zones Project	Yes	Yes
Katie	Rooney	Ulupono	Yes	Yes

REAL ESTATE AGENTS & PLANNING CONSULTANTS

First Name	Last Name	Organization	Focus Group	Workshop
Katia	Balassiano	DPP Land Use Permits	Yes	Yes
Tracy	Camuso	G70	Yes	Yes
Steven	Gangwes	D.R. Horton	Yes	
Gail	Jennings	Colliers International Group Inc.	Yes	
Karen	Lee	Urbanworks	Yes	
Michele	Leong	R. M. Towill Corporation	Yes	Yes
Lorin	Matsunaga	Urbanworks	Yes	
Jeff	Merz	AECOM Honolulu	Yes	Yes
Greg	Moore	Colliers International Group Inc.	Yes	
Brent	Sumida	Urbanworks	Yes	
Noelle	Wright	RMTC	Yes	Yes
Kimi	Yuen	PBR Hawaii & Associates, Inc.	Yes	

CITY & STATE DEPARTMENT STAFF

First Name	Last Name	Organization	Focus Group	Workshop
Sarah	Afong	DPP Land Use Permits	Yes	
Kamaka	Andrade	DPP Traffic Review	Yes	
Katia	Balassiano	DPP Land Use Permits	Yes	Yes
Alex	Beatty	DPP Land Use Permits	Yes	
Sery	Berhanu	Hawai'i Community Development Authority	Yes	Yes
Cameron	Black	DBEDT-HSED	Yes	
Wendel	Ko	DPP Building	Yes	
Franz	Kraintz	DPP Community Planning	Yes	
Magaret	Larson	DBEDT-HSED	Yes	
Deepak	Neupane	HCDA	Yes	
Carson	Schultz	HCDA	Yes	Yes
Perry	Tamayo	DPP	Yes	
Kieth	Tamura	DPP, Building Division, Zoning Plan Review Branch (ZPRB)	Yes	Yes
Weston	Wataru	DPP Site Development	Yes	
Lance	Watanabe	DPP Traffic Review	Yes	

PUBLIC TRANSPORTATION PROFESSIONALS

First Name	Last Name	Organization	Focus Group	Workshop
Makena	Coffman	UH DURP	Yes	
Renee	Espiau	DPP/TOD	Yes	Yes
Amy	Ford-Wagner	FHWA	Yes	Yes
Rae	Gee	DTS	Yes	Yes
Harrison	Rue	DPP/TOD	Yes	
Tim	Streitz	DPP/TOD	Yes	
Ryan	Tam	HART	Yes	

STAKEHOLDERS WORKSHOP

First Name	Last Name	Organization	Focus Group	Workshop
Kenny	Amazaki	CCL	No	Yes
Todd	Apu	Howard Hughes	No	Yes
Sean	Baumes	WAT Architecture	No	Yes
Thomas	Blair	DPP	No	Yes
Bill	Brizee	AHL	No	Yes
Chandler	Carlson	Elemental Excelerator	No	Yes
Sid	Char	WAT	No	Yes
Dennis	Chen	DAGS-Planning	No	Yes

Tabatha	Chow	Uber	No	Yes
Radiant	Cordero	City Council	No	Yes
Luella	Costales	OEDB	No	Yes
Gary	Evora	Kamehameha Schools	No	Yes
Bob	Finley	Waikiki NB #9	No	Yes
Ryan	Fuji	UH Mania	No	Yes
Sharon	Gi	KS	No	Yes
Heidi	Hansen Smith	DOH	No	Yes
Katherine	Hernandez	DPP	No	Yes
Joanne	Hiramatsu	Belt Collins	No	Yes
Anu	Hittle	DLNR	No	Yes
Michael	Imanaka	Avalon Commercial	No	Yes
Brian	Isa	Dags PWD	No	Yes
Josh	Jackon	MK Think	No	Yes
Glen	Kajiwara	Miyabaru Associates	No	Yes
Hong-Ji	Kuo	CDS International	No	Yes
Queston	Lau	Michaels Development	No	Yes
Aki	Marceau	Elemental Excelerator	No	Yes
Lindsay	Nakashima	Belt Collins	No	Yes
Jason	Okuhama	HODA	No	Yes
Stacy	Philippou	Avalon Commercial	No	Yes
Lauren	Reichelt	Blue Planet and STCH	No	Yes
David	Rodriguez	DOT	No	Yes
Tom	Rudary	AHL	No	Yes
Brad	Saito	COR	No	Yes
Sharon	Schuerter	Kaimuki NB #4	No	Yes
Dinna	Schwiering	City Council	No	Yes
Vincent	Shigekuni	PBR Hawaii	No	Yes
Nicole	Smith	Oahu MPO	No	Yes
Larry	Sumida	Kamehameita	No	Yes
Eugene	Takahashi	DPP	No	Yes
Ben	Troeno	HART	No	Yes
Winston	Wadel		No	Yes
Doris	Wong	CDS International	No	Yes

Appendix B:

PowerPoint Presentation for Stakeholders Workshop

FBCI From-Based
Codes Institute Smart Growth America Empowering lives by improving communities DOVER, KOHL & PARTNERS town planning

Off-Street Parking and Loading Regulations Stakeholders Workshop

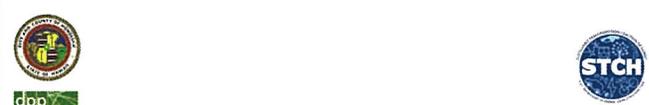
Honolulu, Hawaii
January 10, 2019



FBCI From-Based
Codes Institute Smart Growth America Empowering lives by improving communities DOVER, KOHL & PARTNERS town planning

Agenda

9:00 - 9:15 AM	Welcome and Introductions
9:15 - 9:35 AM	Mapping Today's Parking Problem Areas
9:35 - 11:05 AM	Breakout Discussions on Parking Issues
11:20 - 11:30 AM	Wrap-Up
11:30 AM	Adjourn



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Parking Problem Areas

-

*Bullet points were identified and filled out by participants during the Stakeholders Workshop

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Parking Issues

*Bullet points were identified and filled out by participants during the Stakeholders Workshop

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Parking Issues (examples)

- Parking Reduction
- Offsite Parking
- Physical Design Standards
- Shared Parking
- Transportation Demand Strategies



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Next Steps

- Complete Research on Best Practices
- Summarize Stakeholder Feedback
- Detailed Analysis of Existing Regulations
- Suggested Changes and Rationale
- Presentation to Council, Staff and Stakeholders



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