

Guide to Mobility for Livable Pacific Cities Webinar Series

Webinar 9 of 9:

**Parking
Management**

Bram van Ooijen



GUIDE TO MOBILITY FOR LIVABLE PACIFIC CITIES



About the Speaker

- Director at VOMobility
 - 15 years experience in designing streets for active mobility, predominantly in China and Asia.
 - Projects include parking management, street design, bicycle networks, greenways, BRT corridor design, low-emission zones, TOD
 - Clients include ADB, World Bank and GIZ.
 - Formerly with Institute for Transportation and Development Policy (ITDP) – China office
 - MSc in Civil Engineering, Twente University, the Netherlands
-
- Involved in the Pacific since July 2023
 - Two visits, four countries, six weeks in the region
 - Time spent in Tonga, Kiribati, Fiji and Solomon Islands



Content to be covered

1. The Importance of Parking Management
2. Current conditions and challenges
3. Introduction & Goals of parking policies and management
4. On-street Parking Reform
5. Off-street Parking Reform
6. Other Parking Recommendations
7. How to Achieve Parking Reform
8. Questions & Discussion

1. The Importance of Parking Reform

It is not easy to achieve parking reform. Parking is not sexy. Parking is often ignored. And parking responsibilities are divided among multiple government departments and private actors.



Source: Mugnatto, 2004



1. The Importance of Parking Reform

Car Dependency
=
Parking Dependency
=
Parking Chaos

1. The Importance of Parking Reform



Central Suva, Fiji
Around the MyFNPF Centre
(World Bank)

1. The Importance of Parking Reform



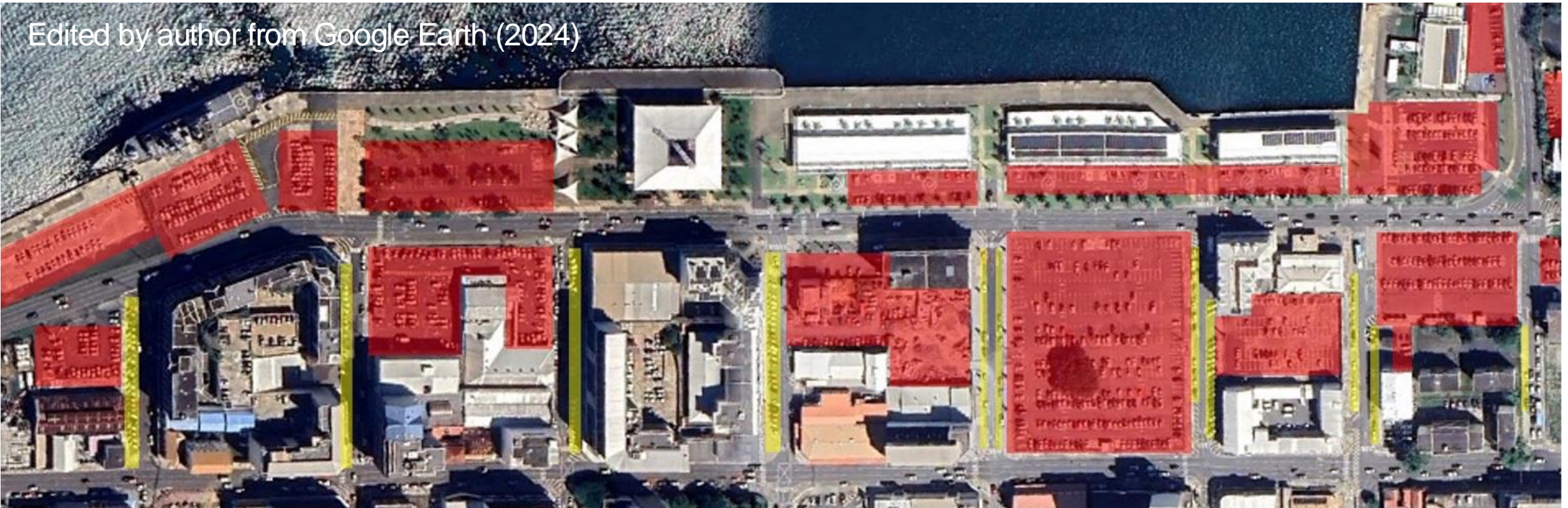
Space dedicated to off-street surface parking lots only (in red).

Excluded are:

- on-street parking
- indoor off-street parking (e.g. garages)

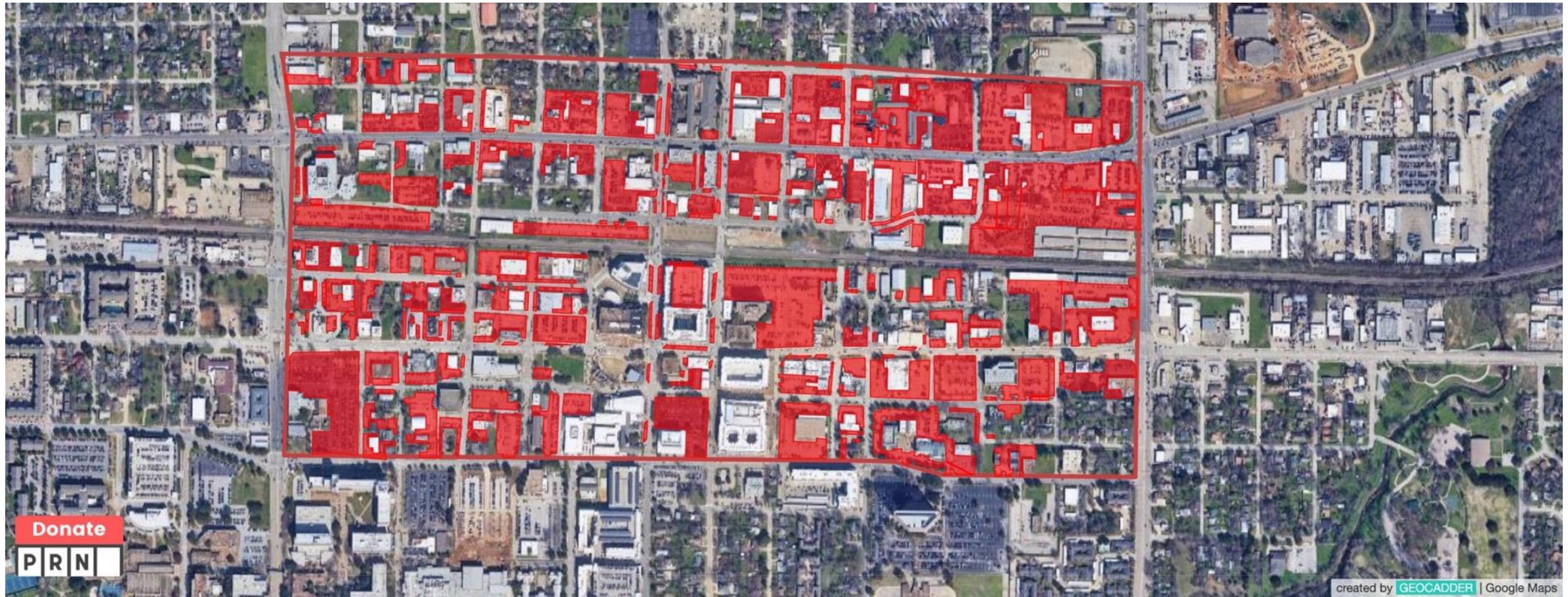
1. The Importance of Parking Reform

Nouméa's city center is filled with parking, both off-street (shown in **red**) and on-street (shown in **yellow**). Little space is left for buildings. When cities are built around the car, it requires vast amounts of land for parking.



1. The Importance of Parking Reform

*Areas in red are dedicated to parking
(downtown Arlington, Texas, US)*



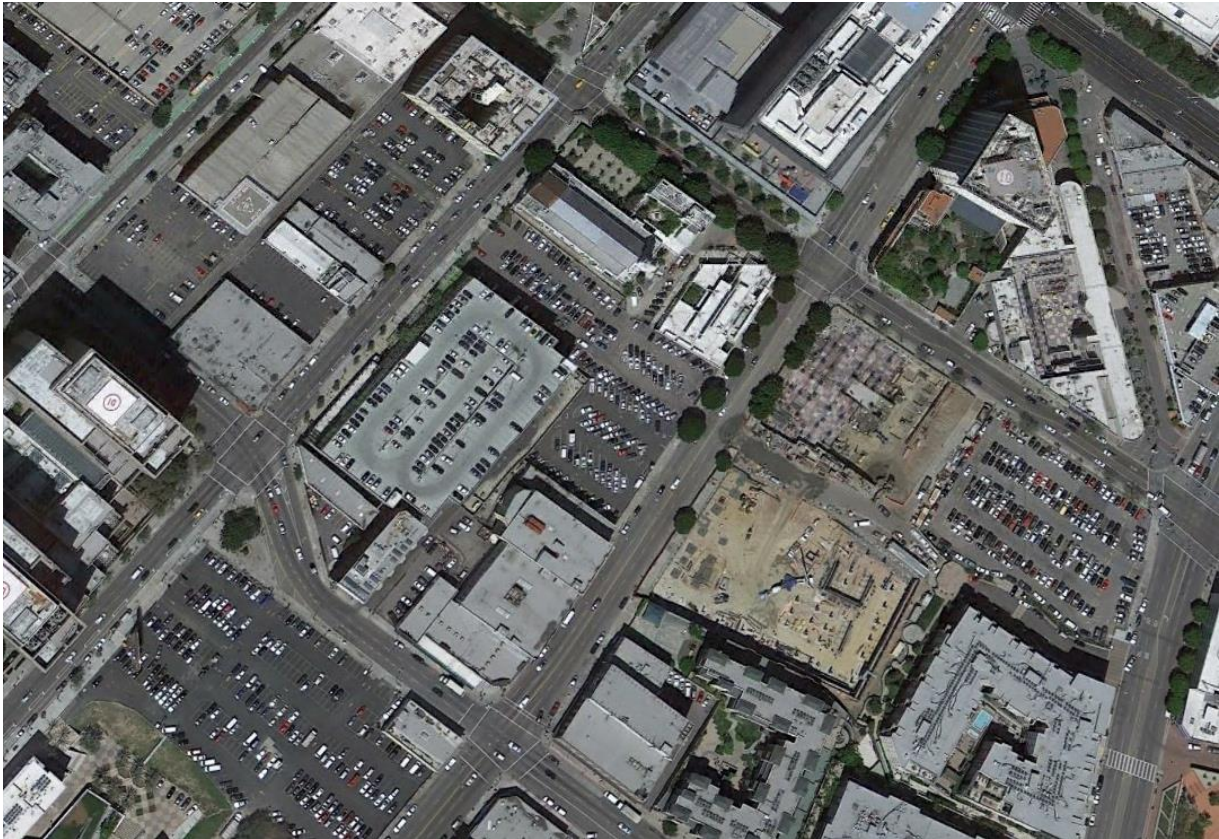
created by [GEOCADDER](#) | Google Maps

Source: Parking Reform Network

1. The Importance of Parking Reform

With excessive parking supply, cities turn into parking lots

Los Angeles



Source: Google Earth



Source: Donald Shoup, 2015

2. Current Conditions & Challenges



Vehicle parking on footpaths in Honiara, Solomon Islands



2. Current Conditions & Challenges

Parking of abandoned vehicles on footpaths on South Tarawa, Kiribati



2. Current Conditions & Challenges

Key findings:

- It is difficult for drivers to find vacant parking spaces
- This impacts traffic flows with drivers 'circling'
- Parking on footpaths and setbacks affect pedestrian flow, safety and comfort
- No management and enforcement of parking
- Formal, delineated parking spaces are rare
- Parking is free of charge – unlimited use of scarce road space
- End-of-life vehicles

Current approaches focus on increasing parking supply, but...

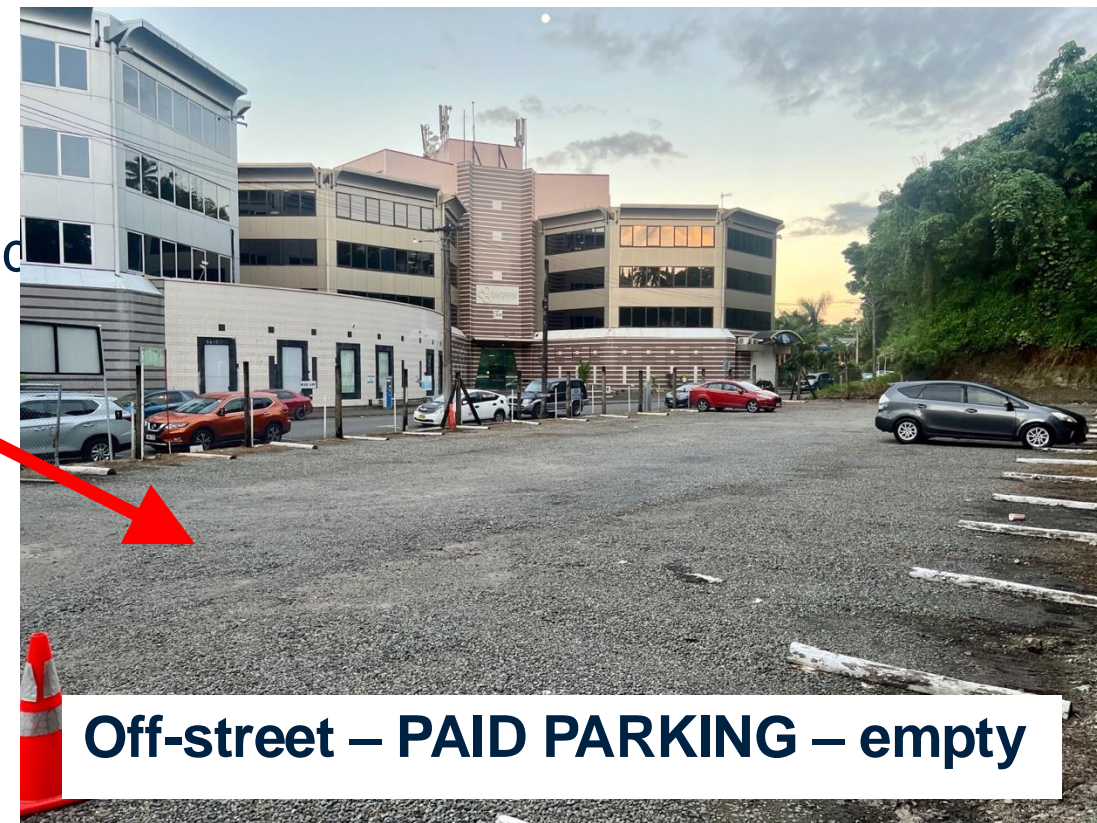
...there is often no shortage of parking supply

There is a lack of parking management to balance supply and demand for parking

2. Current Conditions & Challenges

Roman Catholic Archdiocese of Suva Car Park // Tuesday 21 May 2024 - 5:30pm

- **On-street – FREE PARKING – full**
- **Off-street – Paid parking – empty**



2. Current Conditions & Challenges

Suva's on-street parking revenue could be increased more than 10-fold.

	Currently	Possible
# of parking spaces	800	2,000
On-street parking fee	FJD 0.80/hour	FJD 4.00 FJD/hour
Paid parking hours	47 hours/week (Mon-Fri 8am – 4:30pm, Sat 8am – 12:30pm)	60 hours/week (Mon-Fri 8am – 6pm, Sat 8am – 6pm)
Average occupancy	90%	70%
Annual revenue	FJD 1.4 million	FJD 17.5 million

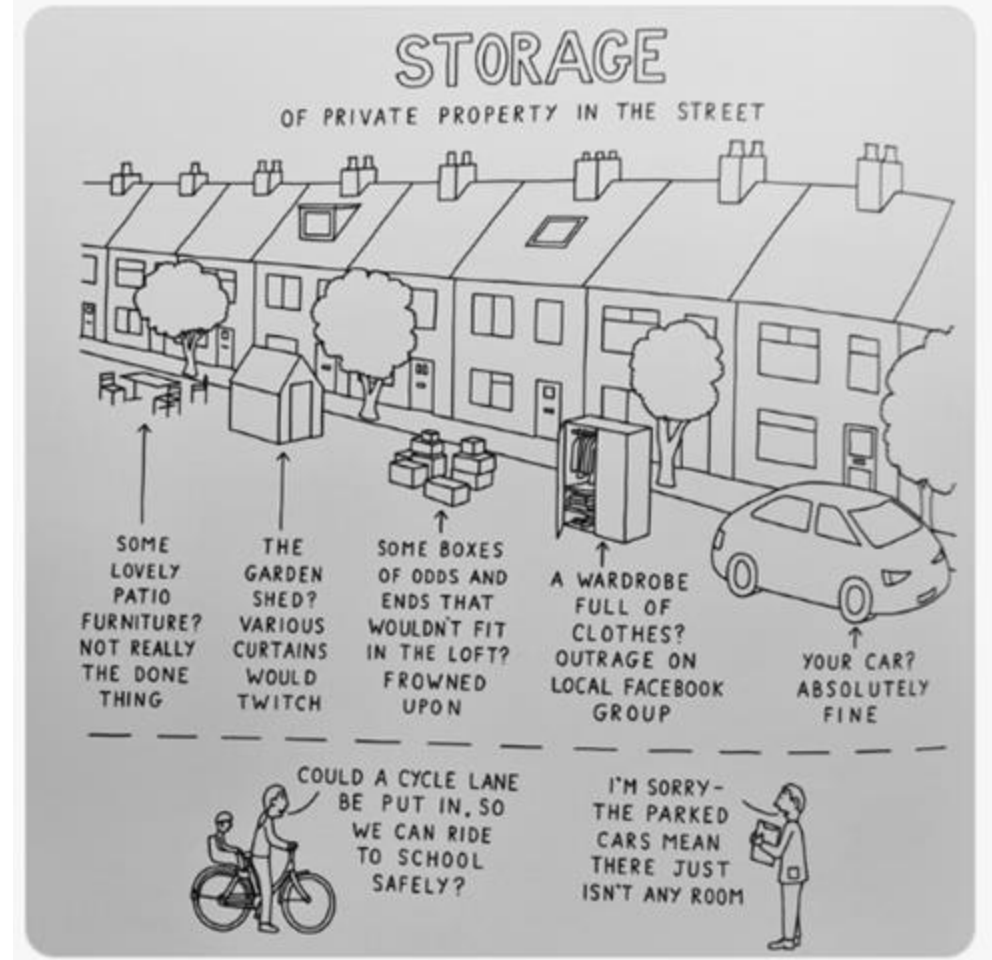
3. Goals of Parking Policies & Management

There are many good examples, where parking is properly managed. It requires a shift in thinking about parking.

Cycling Professor 🚲 @fietsprofessor · Dec 12, 2022
"It's not my duty as Mayor to make sure you have a parking spot. For me it's the same as if you bought a cow, or a refrigerator, and then asked me where you're going to put them."
~@Lorespontevedra, Mayor of #Pontevedra 🇪🇸
(re-elected SIX times)



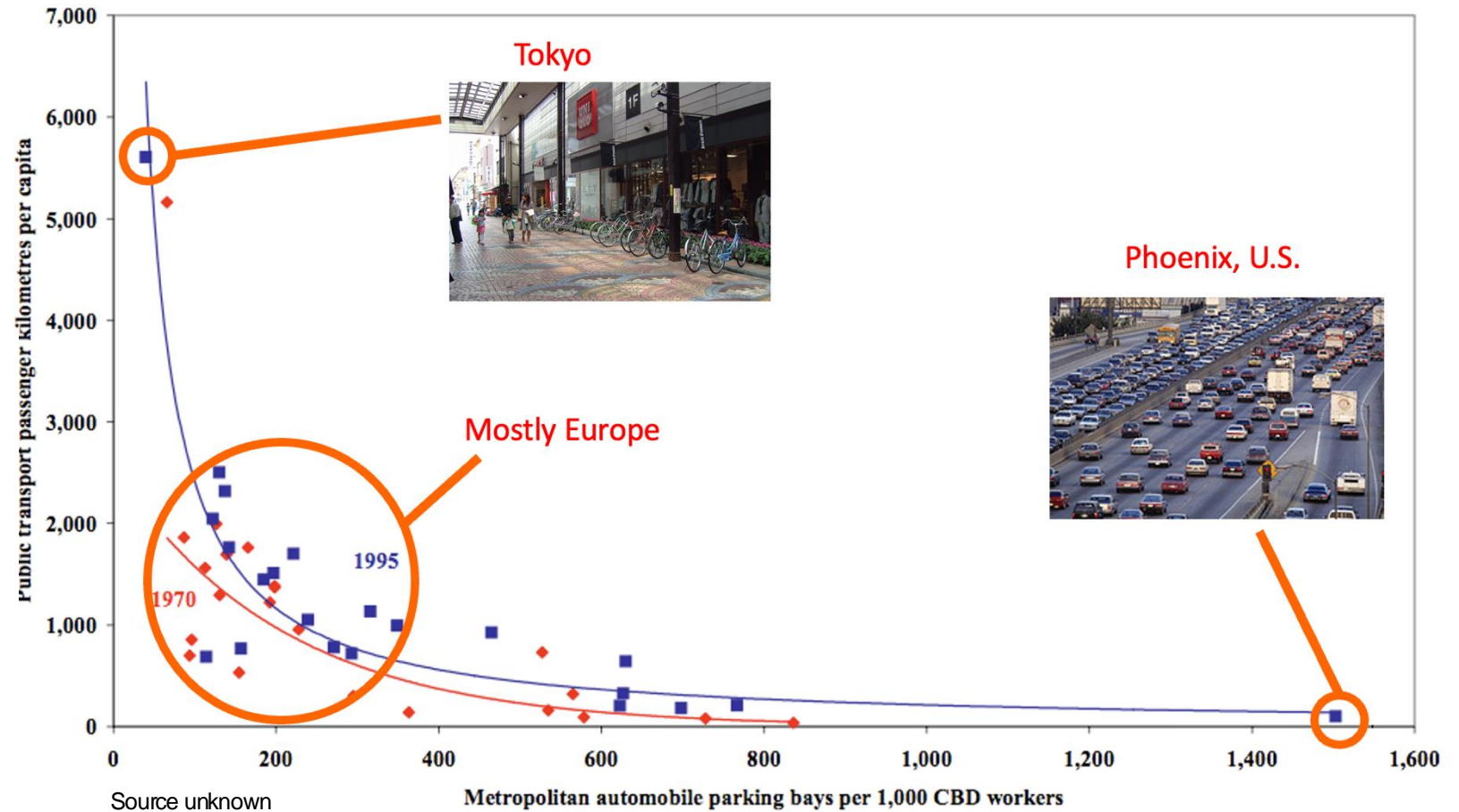
Source left: Fietsprofessor
Source right: Sam Balto



3. Goals of Parking Policies & Management

Implementing the right parking policies, management and operation are a key part of managing your urban transport systems. It cannot be ignored.

The availability of parking spaces and the use of public transport are opposites: to achieve high public transport use, you cannot provide too much parking. If you provide ample parking, you will not see much public transport use.



3. Goals of Parking Policies & Management



On-street



Footpath



Setback



Off-street



Government-owned

Government goal is to improve, manage, price, enforce



Privately-owned:

Government goal is to set (building) regulations, enforce

3. Goals of Parking Policies & Management

Different kinds of parking spaces serve different purposes and should be approached differently.



On-street:
regulated parking in
central areas



Footpath:
ban and enforce



Setback:
allow only in special
circumstances



Off-street:
if privately-owned:
government to regulate
access, size, etc.

3. Goals of Parking Policies & Management

Parking on footpaths?

NO!



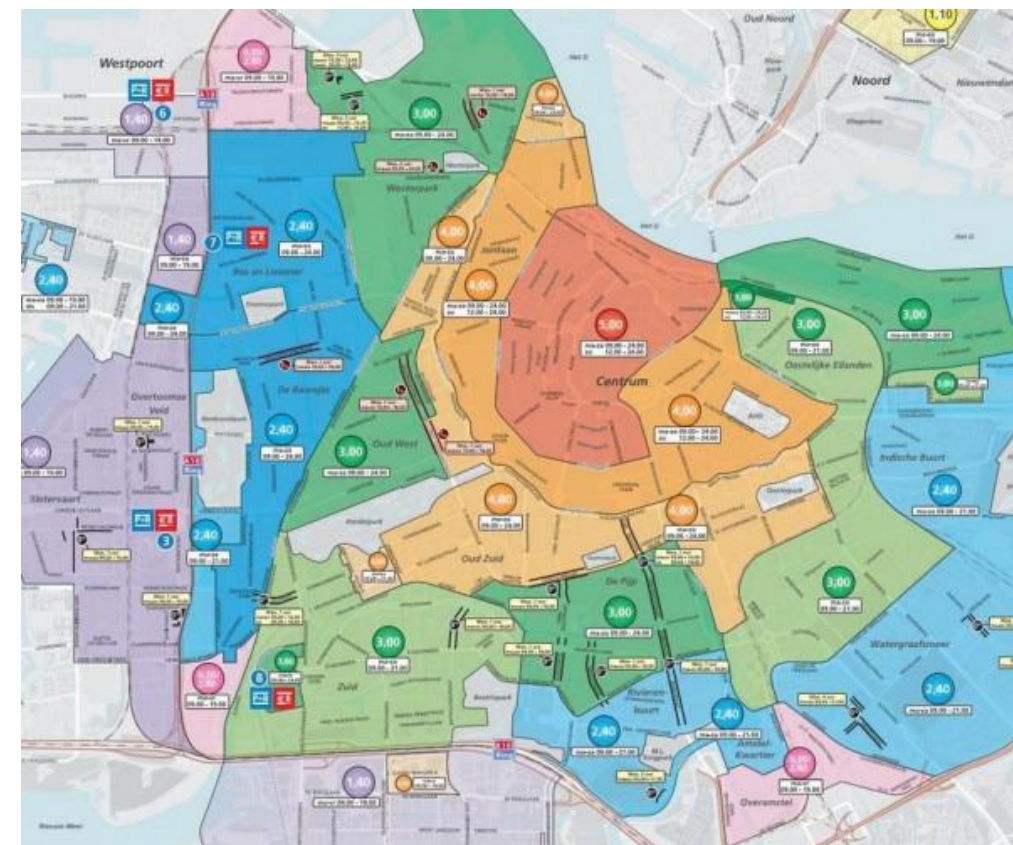
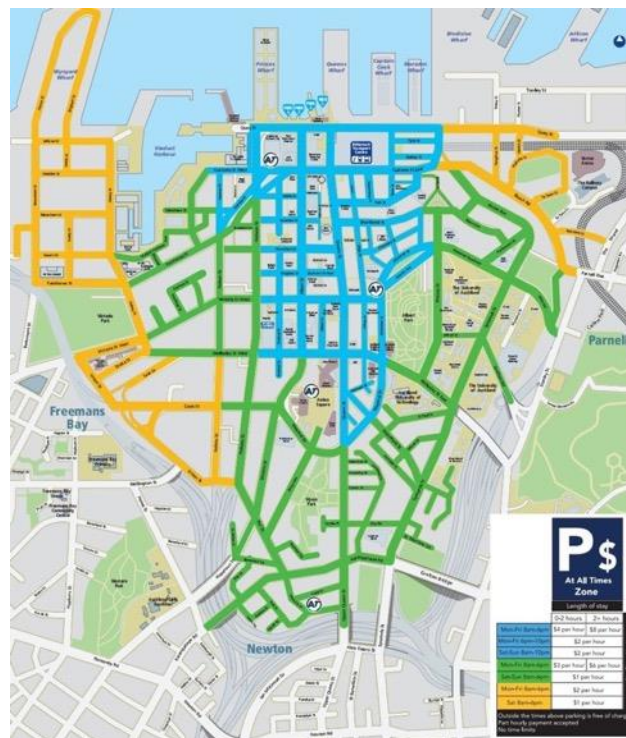
4. On-street Parking Reform – Parking Zones

Implement an on-street parking zone in areas with 70%+ occupancies during peak hours
Do not choose small areas, or some streets only. Implement in a larger area.

Differentiate the parking fee based on occupancies:

<50% → lower the fee

>85% → increase the fee



Auckland (left), Amsterdam (right)

Source left: Greater Auckland (2013)

Source right: Egis (2017)

4. On-street Parking Reform – Parking Zones

Red Zone 1:

- Higher parking fees
- Maximum 60 minutes parking
- Strict enforcement

Blue Zone 2:

- Lower parking fees
- Maximum 3 hours parking
- Normal enforcement

On right: possible Tongatapu parking zone

Not every street in the zone necessarily includes parking supply. Traffic, bus, pedestrian or cycling priority may apply on some streets.



4. On-street Parking Reform – Parking Fees

The first parking meter in the world was installed in Oklahoma City in the United States in 1935, while the first version in Europe was introduced in the summer of 1958 on Grosvenor Square in London outside of the American Embassy in the Mayfair district.



No meters



Meters



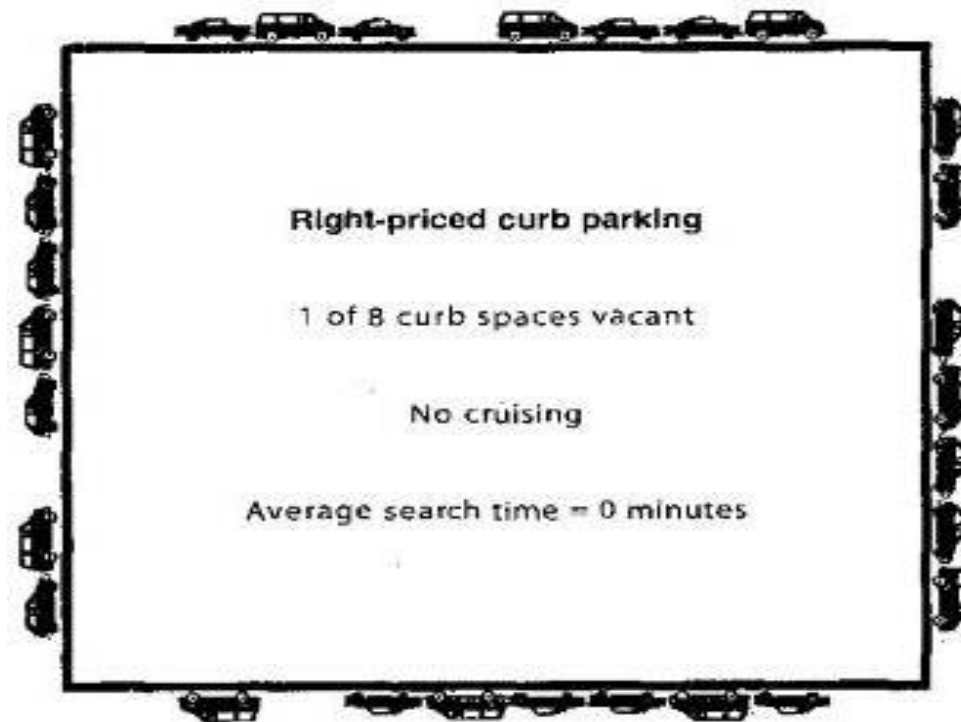
Prices quadrupled

Source unknown

4. On-street Parking Reform – Parking Fees

What is the right parking fee?

- **BASED ON OCCUPANCY OF THE SPACES!**
- On-street fees should be equal to or **higher than off-street fees**, to incentivize long-term parking in off-street facilities.
- **More expensive than public transport** fees, to incentivize public transport use.
- Could consider progressive parking fees: first hour is cheaper, and the price/hour increases with the parking duration
- Time limit of 1-2-3 hours
- Residential permits for a lower annual fee could be considered

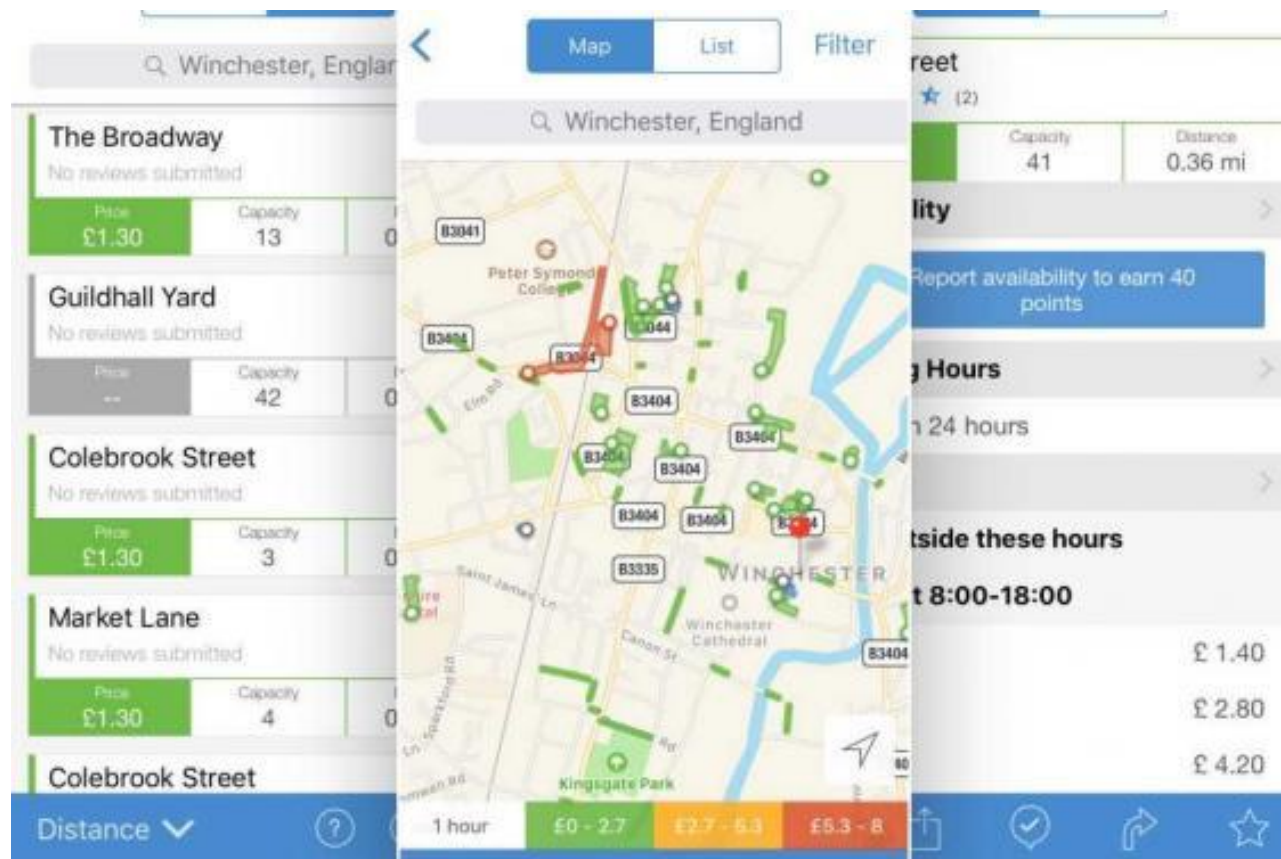


Source: Shoup, D. The High Cost of Free Parking

4. On-street Parking Reform – Parking Payment

Mobile or bank card payment have many benefits over cash/bank card at parking meters or parking wardens:

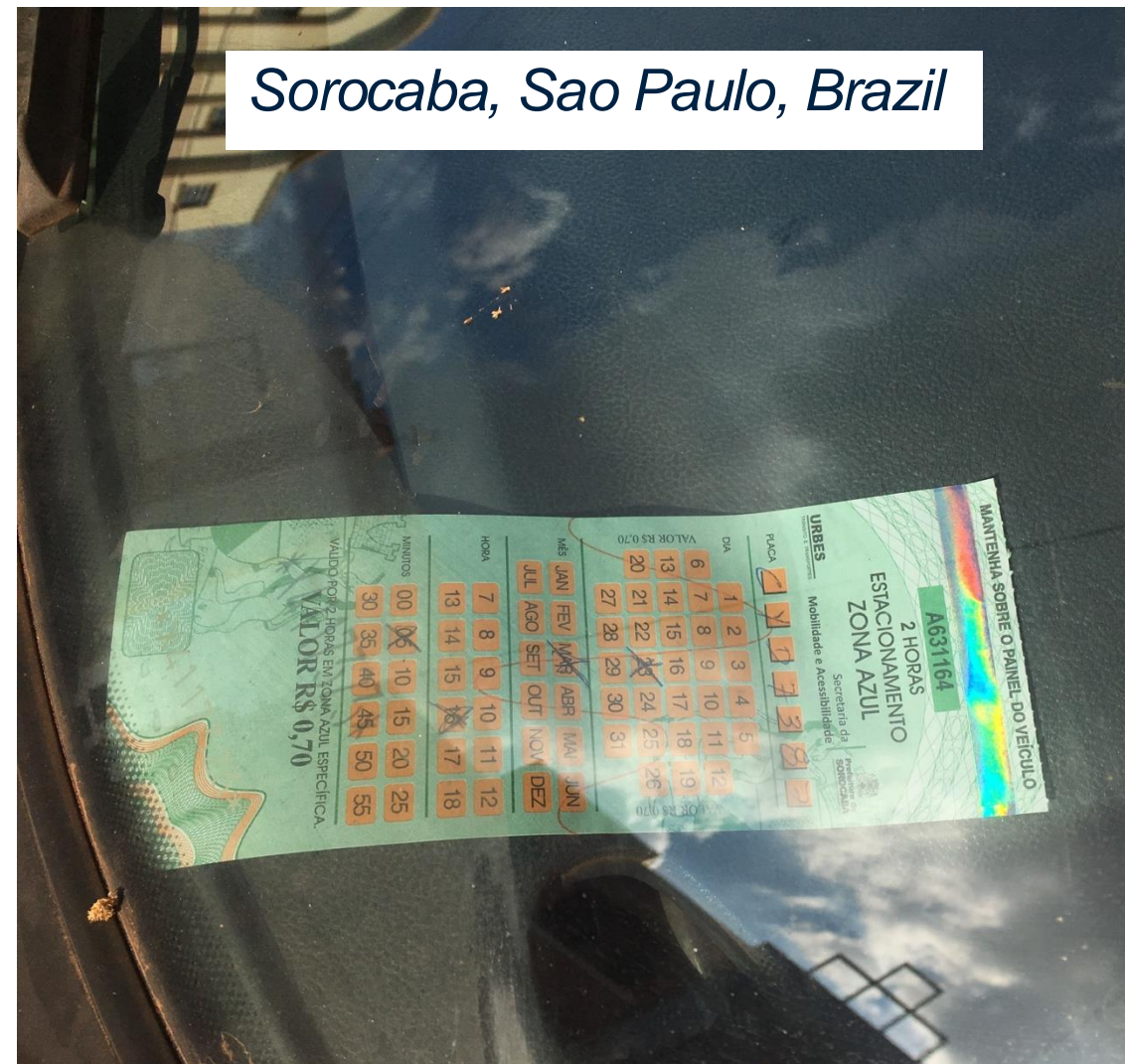
- 1) Obtain all revenue (no 'leakage')
- 2) Data on parking demand over time
- 3) Provide good service to drivers



Source unknown

4. On-street Parking Reform – Parking Payment

Another option is pre-paid parking cards, where drivers mark the date and time each time they park. Not very convenient for drivers, but a low-tech solution in which ‘leakage’ is much lower than paying cash to a parking warden.



4. On-street Parking Reform – Enforcement

Enforcement of non-payment and illegal parking:

- The Traffic Police (or private company on a contract with Service Level Agreement) has the responsibility to enforce payment compliance, and parking in places not marked as parking
- Can use both parking fines, as well as clamp vehicles



Images from South Tarawa, Kiribati

4. On-street Parking Reform – Enforcement



SUVA CITY COUNCIL
TRAFFIC INFRINGEMENT NOTICE
PAY TO SUVA CITY COUNCIL (Name of Council)

MUNICIPAL COUNCIL
(TRAFFIC INFRINGEMENT NOTICE) REGULATIONS 2017
(Regulation 5(5)(a)) 4833209

TRAFFIC INFRINGEMENT NOTICE NO.: _____ (Address)

To: _____ (Name) of _____ (Address)

The driver (or registered owner): _____ OR _____ of motor vehicle Registration No.: MD 863

(Driver Licence No: _____ Class: _____ Expiry Date: _____)

Statement of Offence: parking meter offence.

Particulars of Offence: On the 21st day of May 2024, at Suva in the Central division being the owner of vehicle Reg. no. MD 863 at Gladstone rd parked the said vehicle at meter no. 74 without a valid ticket displayed.

Contrary to: Regulations 85 (1)(b) and 87 of Land Transport (Traffic) Regulation 2000.

1. This offence carries a maximum penalty of \$200 and _____ demerit points. If you do not wish to contest this Notice, you are required to pay a Fixed Penalty of \$10 to the Land Transport Authority.

2. The payment of the Fixed Penalty is due within 90 days from the date of issue of this Notice and is payable at any Land Transport Authority Office nearest to you. All liability in respect of the offence will be discharged and no further action will be taken against you with respect to this particular offence.

3. If you were not the driver of the motor vehicle at the time of the offence and wish to contest this Notice, you must fill in a Statutory Declaration Form and disclose to the Land Transport Authority the name and address of the driver of the motor vehicle at the time of the offence (including other relevant information and necessary documentation) within 90 days from the date of issue of this Notice.

4. If you wish to contest this Notice for any other reason, you may elect to dispute this Notice in court (within 90 days from issue date).

5. If you fail to pay the Fixed Penalty, provide a Statutory Declaration or dispute this Notice in court within 90 days from the date of issue of this Notice, you—
(a) will be liable to a late payment fee equivalent to 50% of the fixed penalty, in addition to the Fixed Penalty;
(b) will be issued a departure prohibition order preventing you from leaving Fiji; and
(c) will not be able to renew your licence or vehicle registration.

6. You may pay your Fixed Penalty and late payment fee in a single payment or by installments.
Note if your account is frozen it will not be unfrozen unless and until all penalties are paid in full, this includes the Departure Prohibition Notice, Licence or Vehicle Registration.

7. If you do not pay your Fixed Penalty and late payment fee in full or provide a Statutory Declaration or elect to dispute this Notice in court within 12 months from the date this Notice is issued to you, this Notice will take effect as a conviction and the Land Transport Authority may suspend your licence and seek the maximum penalty and demerit points applicable, from the court.

T. Nakawa (Name of Authorised Officer) [Signature] 21/5/24 (Date) 12:28pm (Time)

AFFIDAVIT OF SERVICE
(To be completed in all cases)

I, _____, the Authorised Officer whose signature appears on the Traffic Infringement Notice above, make oath and say that, on the _____ day of _____, 20____ at _____ I did serve upon the accused person specified therein, _____ OR _____ affix in a conspicuous position, on the motor vehicle specified therein the copy of that Traffic Infringement Notice.

Sworn by the above named Police Officer this _____ day of _____, 20____

Before: _____
Justice of Peace OR Commissioner for Oaths.

NOTE: This Traffic Infringement Notice is issued by a Municipal Council.

In Suva only 1 parking fine was observed.

- 10 FJD only – too low to incentive payment compliance, and too low to cover costs of enforcement
- Could consider demerit points on driver's license

4. On-street Parking Reform – Parking Design

In the design of on-street parking spaces, it is important to use physical measures (bollards, trees, seating, etc.) to block vehicles from entering the footpath



4. On-street Parking Reform – Parking Design



Hibiscus Road,
Honiara

4. On-street Parking Reform – Parking Design



Hibiscus Road,
Honiara

4. On-street Parking Reform – Parking Design

On-street parking design considerations:

- Ban parking near intersections and mid-block crossings and create bulb-outs, using bollards
- Eliminate some parking spaces for alternative uses: street amenities such as trees and waste bins, public seating, restaurant outdoor seating
- Incorporate (~15 minute) delivery bays
- Incorporate taxi queuing bays
- Incorporate dedicated parking spaces for wheelchairs users



5. Off-street Parking Reform - Setbacks

The Government of Samoa's Urban Design Standards for Apia CBD and Waterfront provides regulations on setback parking for the betterment of walking conditions.

In Apia's CBD setbacks should contribute to a high-quality built form along the street edge. Setbacks are allowed to be cancelled and building walls moved.

Maximum number of driveways per lot:

Table C4.1: maximum no. of driveways

Length of boundary facing a street	Max number of driveways
Less than 25m	1 two-way
25m to 50m	1 two-way or 2 one-way
Greater than 50m	2 one-way or 2 two-way*

* PUMA may approve additional driveways if the nature and scale of the proposed development warrants it.

Minimum distance from curbside:

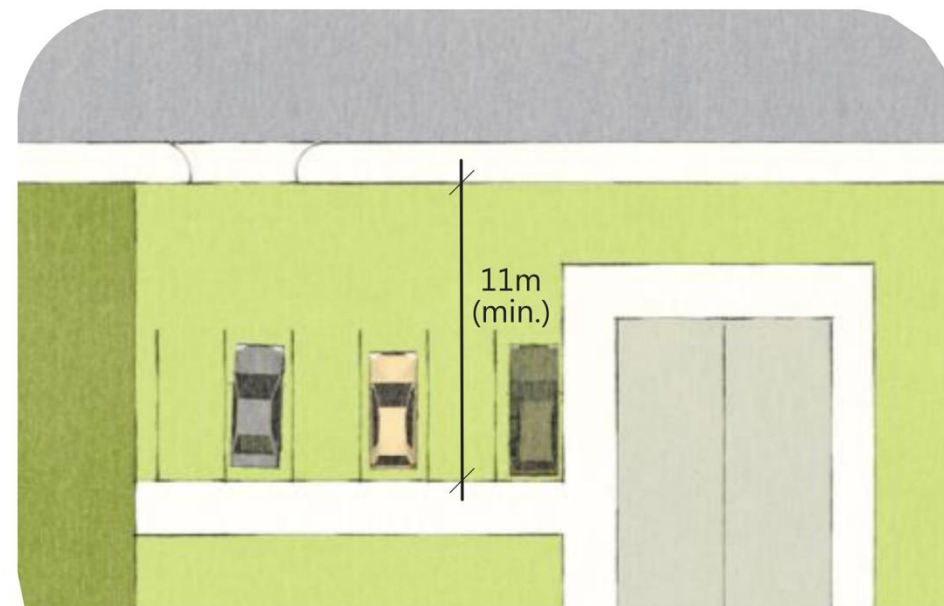


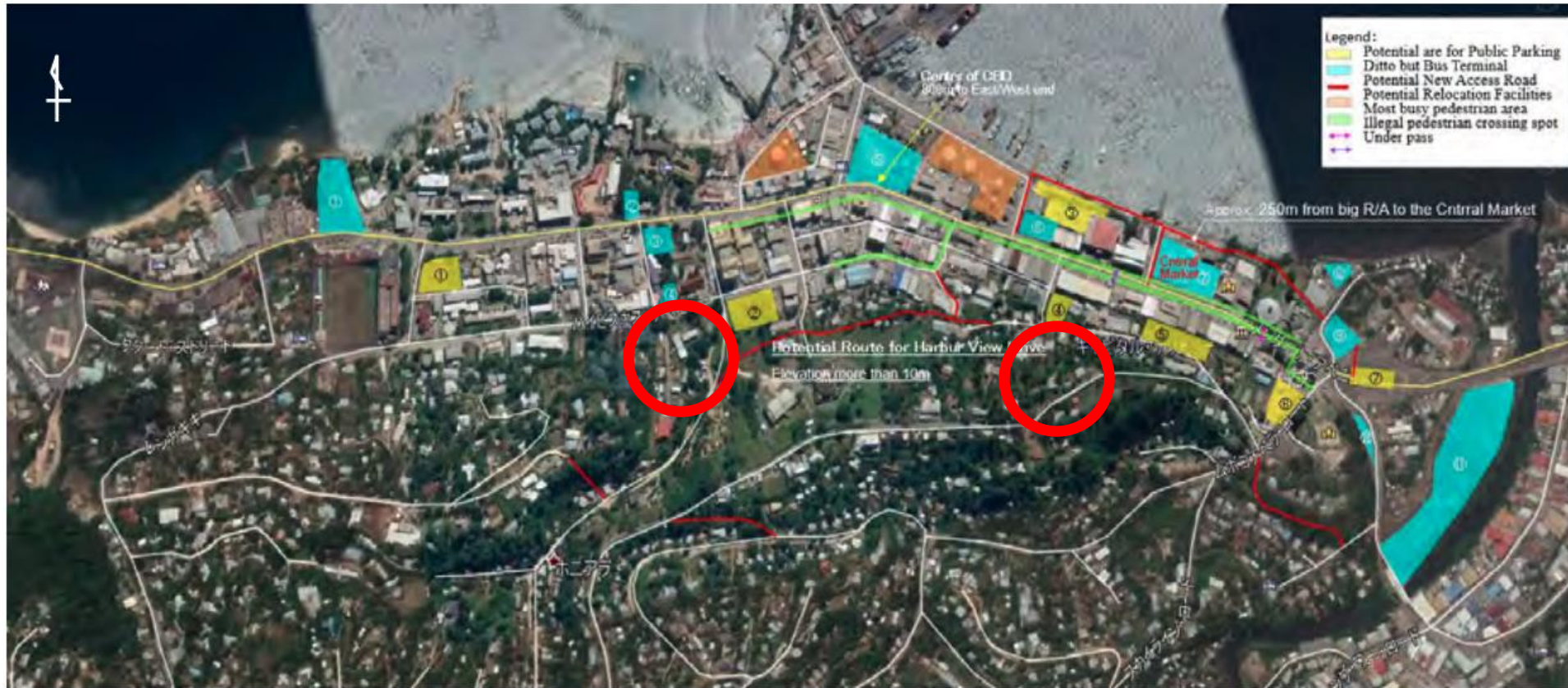
Fig. C4.3 Parking setback on street frontages

5. Off-street Parking Reform - New Parking Lots?

Honiara: JICA studying a new (“tower”) off-street parking lot in the CBD near/on Mendana Ave

Tarawa: planning a parking building in Betio

Tonga: planning a parking building near the edge of the city center



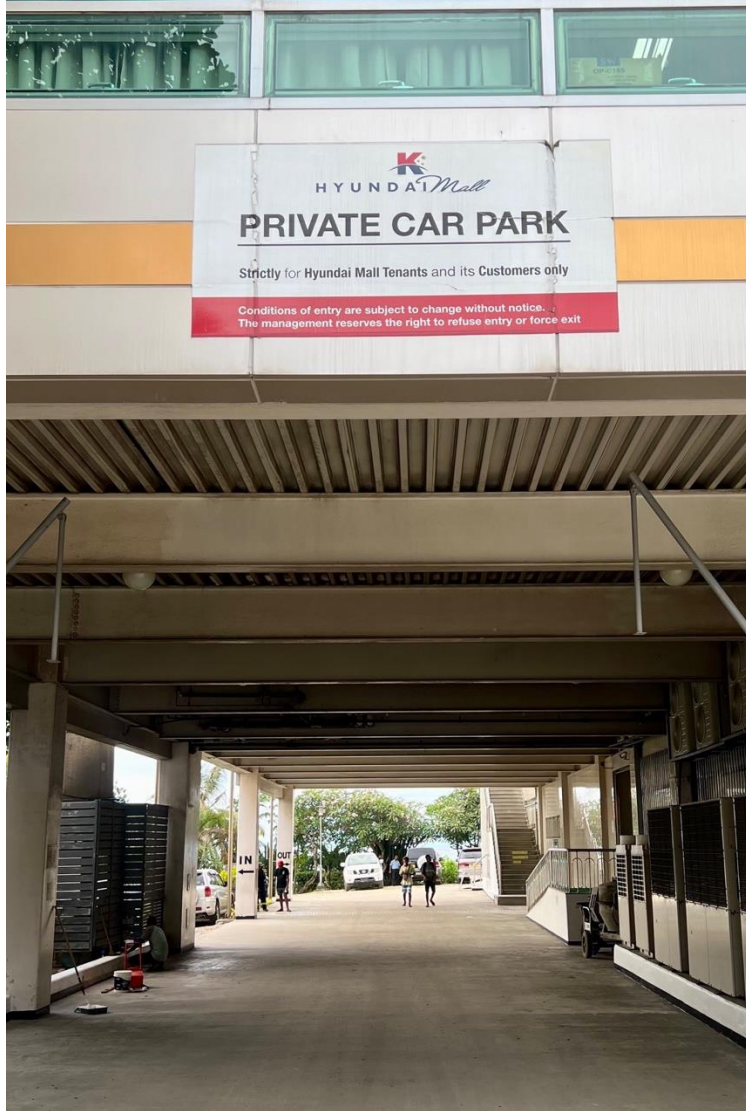
Source: JST

5. Off-street Parking Reform - New Parking Lots?



Off-street parking at Honiara's Hyundai Mall has large vacancies, while on-street parking is mostly full. Parking demand could be shifted toward off-street, and away from the streets to make space for better uses.

5. Off-street Parking Reform - New Parking Lots?



5. Off-street Parking Reform - New Parking Lots?

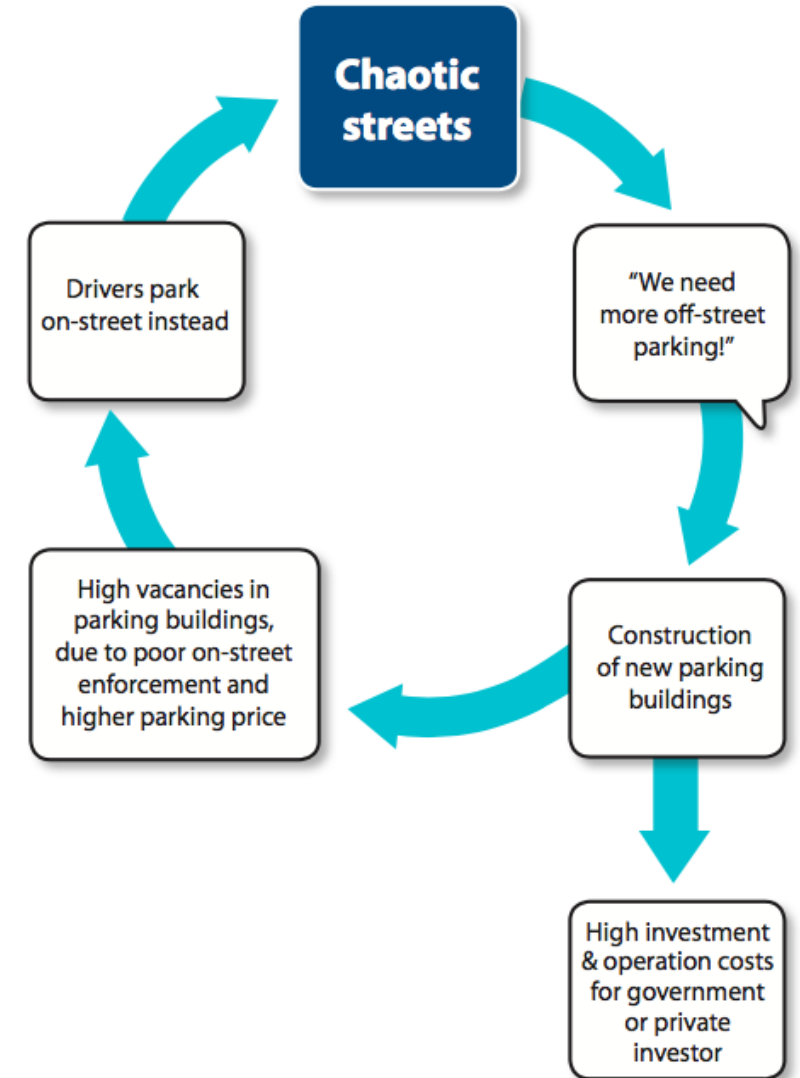
Off-street parking at South Sea Evangelical Church and Church Wesley United Church is little used on weekdays. These are only a 100-200m walk from the market entrance.



5. Off-street Parking Reform - New Parking Lots?

Building only new off-street parking facilities without implementing on-street parking reform would be a big mistake!

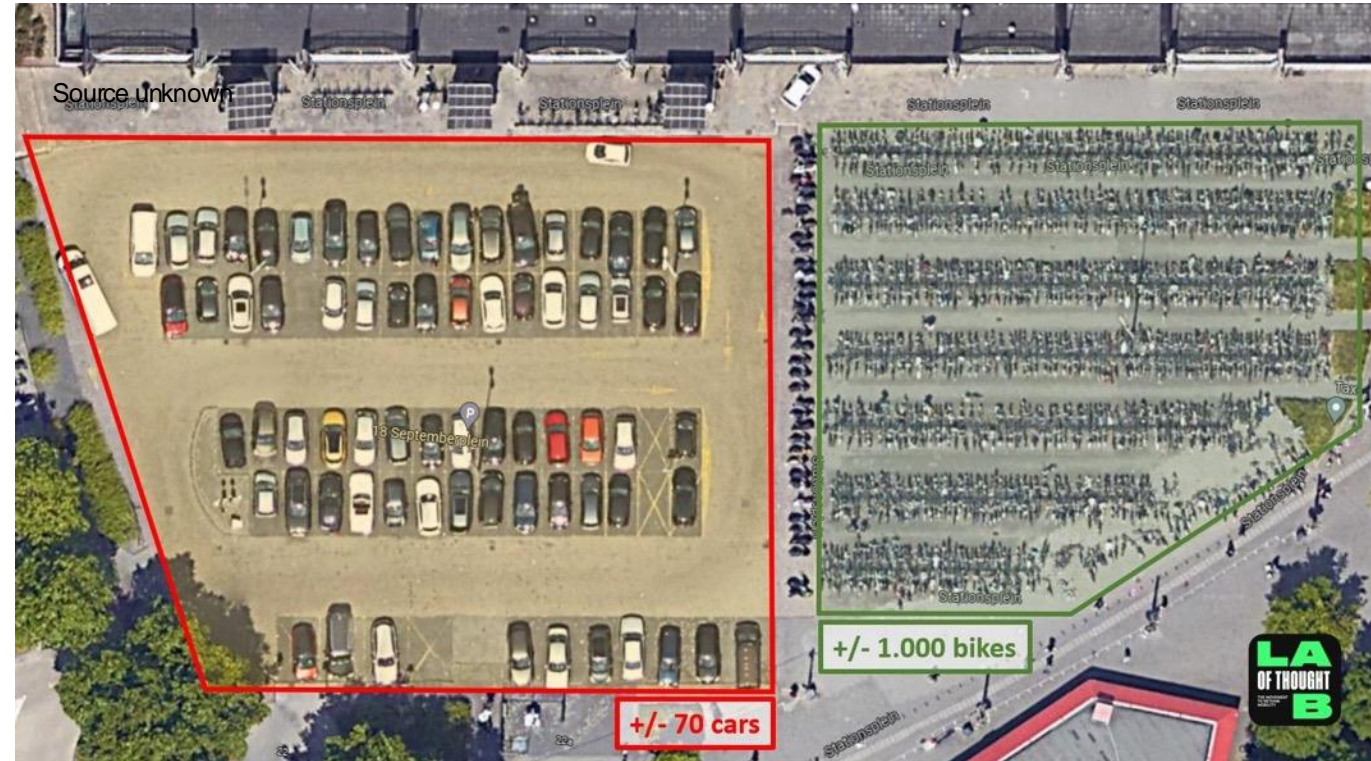
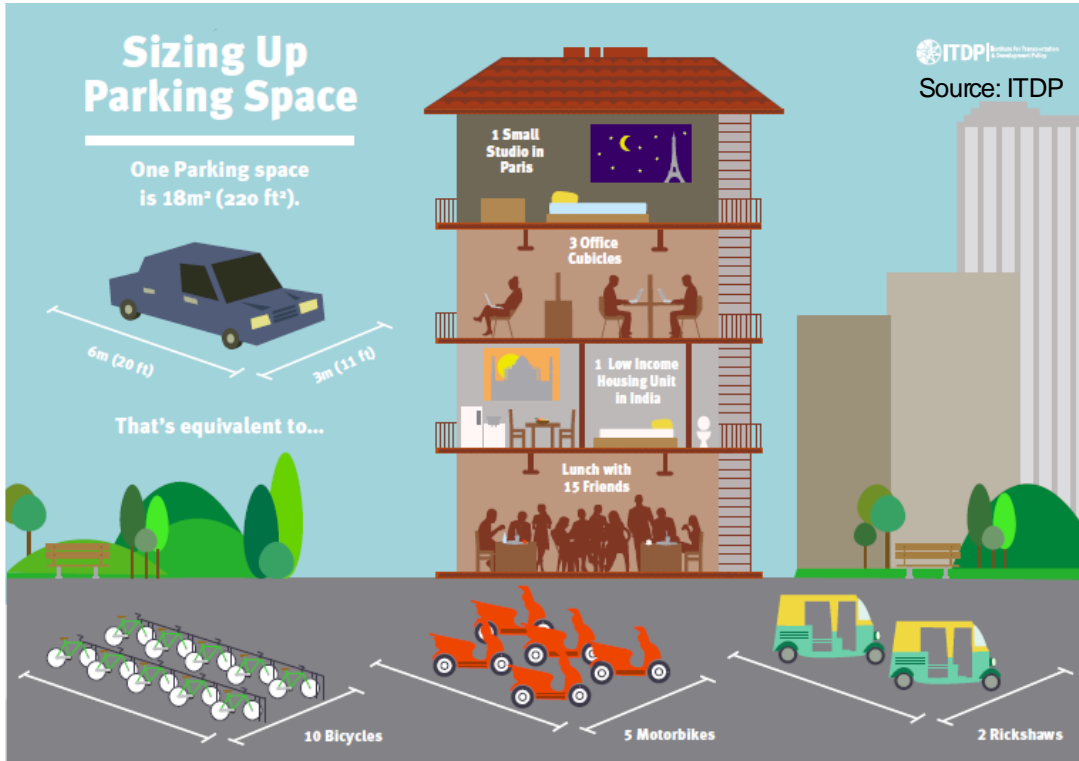
- Instead of building more off-street parking lots and buildings, an **analysis of existing supply and demand** is needed. One often finds that some streets have a large shortage of parking, whereas most adjacent streets or existing off-street parking facilities have large vacancies
- **Tackle on-street parking woes first.** Only then private off-street parking development is possible.
- Use **on-street parking fees to steer parking demand**
- **Break the vicious circle of car-dependency.** Making parking easier will attract more people to drive, and soon enough you need another multi-level car park. And congestion levels will keep increasing.



5. Off-street Parking Reform - New Parking Lots?

Be very cautious in investing in the development of off-street parking facilities, especially multi-level structures:

1. Off-street parking requires large amounts of land that is costly and may be better used for other purposes. An off-street parking space in a garage or building takes 35 - 40sqm.



5. Off-street Parking Reform - New Parking Lots?

Be very cautious in investing in the development of off-street parking facilities, especially multi-level structures:

2. It requires large public funds for investment, operation and maintenance

Chinese costs for parking buildings, 2019:

Construction costs:

14,000 - 22,000 USD/parking space

Operational costs:

7-12 USD/month/parking space

5. Off-street Parking Reform - New Parking Lots?

Be very cautious in investing in the development of off-street parking facilities, especially multi-level structures:

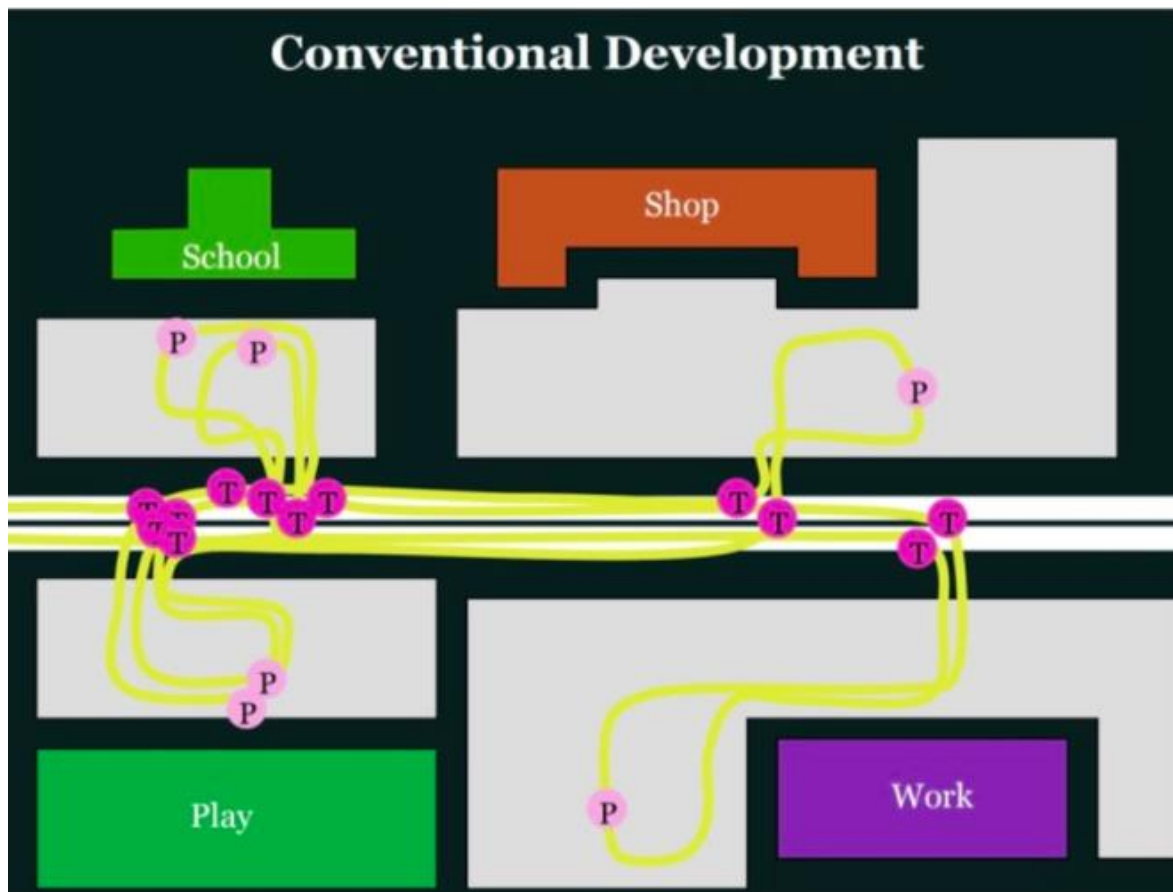
3. It may not be used if on-street parking is not managed simultaneously. Honiara's National Hosting Authority has ample parking availability



5. Off-street Parking Reform - Park-Once Districts

Better use existing supply of parking spaces.

Use push & pull measures to stimulate the sharing of existing (and future) off-street facilities.



Source: Patrick Siegman (2015)

5. Off-street Parking Reform - Parking Sharing



Think of it as a food court: restaurants share a larger pool of tables for all guests, rather than each providing seating for their own guests.

- A neighborhood's 'pool of parking': balances supply & demand
- The user pays (market rate) vs. "you already paid, might as well use it"
- Steers demand to vacant spaces, prices parking, modal shift

Source: unknown

5. Off-street Parking Reform – Parking Mandates

Off-street parking standards are fairly high, and excessive for commercial functions.

4) Car Parking

In case of new land use, development, or redevelopment, the required number of car spaces shall be provided first, otherwise such land use will not be approved. Car parking requirements are shown in the Table 3.2-3.

Table 3.2-3 Car Parking Requirements

Use	Decision Guideline	Car Space Measure	Rate
Residential apart from serviced accommodation	The purpose of the standards is to ensure that subject to road capacity considerations, future residential developments should have sufficient parking provision to match the car ownership of residents	Car spaces per dwelling or unit	1
Commercial	The purpose of the standards is to ensure that, except in special circumstances, future commercial developments should have sufficient on-site parking to match manifest operational requirements.	Car spaces per 100m ² of actual retail or office floor space area (excluding storage area)	2.25
Industry	The purpose of the standards is to ensure that sufficient parking and loading/unloading spaces are provided to satisfy requirements.	Car spaces per 100m ² of actual floor space	1.5
Serviced accommodation	The purpose of the standards is to ensure that adequate parking spaces are provided to satisfy requirements.	Car spaces per unit	0.5
Education Centers	The purpose of the standards is to ensure that adequate parking spaces are provided to satisfy requirements.	Car spaces per classroom	0.6
Any other uses	The purpose of the standards is to ensure that adequate parking spaces are provided to satisfy requirements.	Depends on the demand of the particular development	-

Source: Honiara LPS 2015

Table 3.2-6 Car Parking Requirements

Use	Decision Guideline	Car Space Measure
Residential apart from serviced accommodation	The purpose of the standards is to ensure that subject to road capacity considerations, future residential developments should have sufficient parking provision to match the car ownership of residents	1 parking space per dwelling + 2 more for dwellings with > 3 bedrooms
Accommodation	Ensure that a reasonable number of car parks are provided for staff and guests that may have need of on-site parking	0.25 parking sites per permissible guest + 0.1 per staff with a minimum of 2 car parks
Retail	The purpose of the standards is to ensure that sufficient parking and loading/unloading spaces are provided to satisfy requirements.	2.25 spaces per 100m ² of leasable area with a minimum of 2 car spaces
Restaurant and bars	The purpose of the standards is to ensure that sufficient parking and loading/unloading spaces are provided for good commercial activity.	2.25 spaces per 100m ² of leasable area with a minimum of 2 car spaces
Office	The purpose of the standards is to ensure that, except in special circumstances, future commercial developments should have sufficient on-site parking to match manifest operational requirements.	1.5 spaces per 100m ² of leasable area with a minimum of 2 car spaces
Industry	To ensure that future development have adequate parking space on-site	1.5 per 100m ² leasable floor area with a minimum of 2 car spaces
Education: primary and secondary	The purpose of the standards is to ensure that adequate parking spaces are provided to satisfy requirements.	0.2 per student over the legal age of driving + 1 space for every 5 staff
Education: tertiary	The purpose of the standards is to ensure that adequate parking spaces are provided to satisfy requirements.	0.2 per student over the legal age of driving + 1 space for every 5 staff
Health	The purpose of the standards is to ensure that adequate parking spaces are provided to satisfy requirements.	0.5 per patient + 1 space for every 5 staff + 1 space per ambulance
Other uses	The purpose of the standards is to ensure that adequate parking spaces are provided to satisfy requirements.	Depends on the demand of the particular development

Source: Henderson LPS 2016 (Draft)

5. Off-street Parking Reform – Parking Mandates

Minimum parking requirements → more off-street parking spaces → easier parking → more private cars driving

Considerations:

- Consider a maximum number of off-street parking spaces for new developments (common in European and some US cities) – e.g. CBD areas, locations with convenient bus services
- Extra costs of off-street parking will increase property prices, eventually paid by house owners, shoppers, diners, etc.
- Parking requires large amounts of land – choose carefully
- Without on-street parking enforcement, a desired shift to off-street parking is futile

6. Other Parking Recommendations

- To increase local support (including business owners) for paid parking, it is recommended to **ringfence parking profits** and use these funds for:
 - Street scape/public space improvements: reinvest where you charge for parking
 - Improvements of transport alternatives (bus, cycling, walking)
- Institutional changes: **a parking authority**, comprised of representatives of all related government departments, headed by the highest local authority who has influence over each of these departments, to ensure compliance and integration.
- Future transport developments are unknown. Building too much parking now, will have decade long impacts on the livability and success of the city



Strategy 8

Organize parking to make streets less chaotic

Key Messages

1. Don't build more parking supply as this will lock cities into car dependency for decades to come.
2. Manage parking better to ensure it is available to those who need it most (those with extra accessibility needs, deliveries to local businesses, and taxis).
3. High demand parking should be *priced*, and the revenue generated used to fund public space beautification, etc.





Strategy 8: Organize parking to make streets less chaotic



Part I



Part II

2025



Develop a parking strategy and plan that surveys parking supply and demand, sets out parking zones, fees, operation hours, time restrictions, technology for payment and enforcement, parking space design, communication plan to stakeholders and the public.

2026

Implement parking laws and decrees for paid parking and fines.



Make institutional arrangements through a new parking authority, or a committee comprised of related departments. Consider outsourcing operation and enforcement to a private entity.



2027

Eliminate parking in setback areas and move vehicles to areas behind buildings to activate street fronts with shops, cafes and restaurants that add economic value and vibrancy to the streets.



2028



Reinvest parking profits into the local area via public transit and redesigning of streets to make them more livable.

2029

2030

ALWAYS

Limit construction of new (especially government- financed) off-street parking buildings as lots of drivers will continue parking on- street if the street remains the cheaper option or if enforcement is weak.”



7. How to Achieve Parking Reform

What would a parking study entail?

1. Parking Survey:

- Formal parking supply (on-street, off-street, setback) in city center
- Current parking prices (formal/informal) and practices (technology, enforcement)
- Parking demand in city center (16-hour, hourly surveys, in city center), documenting parking demand, duration, turnover

2. Parking Management System Recommendations:

- Business and operational model, including consideration of PPP, institutional changes
- Parking technology (payment, enforcement, occupancy)
- Parking fee and revenue projections

3. Parking Policies and Legal:

- Drafting a parking strategy, parking decree, parking schedules
- Drafting a communication plan for parking reform

Learn More



On-Street Parking Pricing, by the Institute for Transportation and Development Policy (ITDP, 2021)

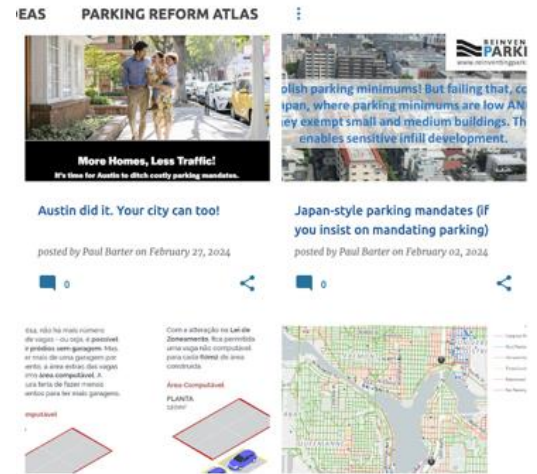
<https://www.itdp.org/publication/on-street-parking-pricing/>



On-Street Parking Management, by Paul Barter, for Gesellschaft für Internationale Zusammenarbeit (GIZ, 2017)

<https://sutp.org/publications/on-street-parking-managment/>

REINVENTING PARKING



Reinventing Parking – a website run by parking expert Paul Barter, with a large library of resources and podcasts on everything parking

<https://www.reinventingparking.org/>

Questions & Discussion

Please raise your questions, concerns, challenges and ideas. Thank you!

Download reports



Part I



Part II



GET IN TOUCH AT BRAM@VOMOBILITY.COM

References

Sources of images shown:

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