Parking Management: International Perspective

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1. PARKING CHALLENGES
Why do we need parking management…

Source: Wagner, GIZ Photo DVD

Source: Breithaupt, GIZ Photo DVD
• Increasing emissions of greenhouse gases and noise caused by parking-space-search-traffic:

- Cruising for curb parking generates about 30% of the traffic in central business districts
- Study of a 15-block business district (Los Angeles) shows (per year):
  1. 1,500,000 excess vehicle km = 38 trips around the world
  2. Wastage of 177,000 liters of fuel
  3. Production of 730 tons of carbon dioxide

Parking? Why Manage it? (1)

- It is an important component of transportation
- Every vehicle needs a place to park, so just to increase parking facilities is not a solution
- It is a major cost to a society
- It affects accessibility to a destination
- A typical automobile is parked for 23 hours a day and uses several parking spaces a week
- Improper management hinders development of other infrastructure
Parking is a key issue in the push-and-pull approach towards better urban transport with fewer cars and more cycling, walking, and transit.

Parking policies are supposed to support the change from car trips to the more city-compatible means of transport, and to relieve the open space of driven and parked cars for other uses.

Parking control and pricing is the most commonly applied demand management measure.
Why do we need parking management...

Source: Wagner, GIZ unpubl.
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What’s wrong with parking in many towns and cities?

“Parking spaces attract cars; so they generate car traffic. Parking needs space, which is not available for other street uses. Nothing else has changed the traditional streetscape as dramatically as parked cars have done during the last few decades.”

Hartmut H. Topp, Professor at the University of Kaiserslautern, Germany
What’s wrong with parking in many towns and cities?

PEDESTRIAN WAY OR PARKING ZONE?

Bangkok / Thailand
What’s wrong with parking in many towns and cities?

CAN YOU FIND THE BI CYCLE PATH?

Westmont / USA

Bucharest / Romania
INTERESTING PATTERN FROM A BIRD´S EYE VIEW

Volos / Greece
Our cities need....

Parks........................................not car parks!
Growing Challenges

- Growing number of cars
- Limited road infrastructure capacity
- Emissions (local emissions and noise)
- Road safety problems
- Lack of public urban space
- Negative impact on quality of urban life

Source: commons.wikimedia.org
2. PARKING STRATEGIES
Parking management

What it does…
- Less “wild“ parking
- Higher availability of parking space
- Less circulation to find a free or cheap parking spot
- General speed-up of car traffic
- Shift car users to other transport modes
- Higher attractivity of urban space
- Major revenue earner (medium-sized city: 5-20m USD)

What it doesn’t…
- Keep road users, commuters, residents away from visiting the city centre
- Lead to a decline of retailers
Menu of Parking Regulation and Policies:

• Limit on-street parking time (amount of time that a vehicle can be left in a spot).

• Limit use of on-street parking to area residents.

• Limit on-street parking of large vehicles.

• Prohibit on-street parking on certain routes at certain times (such as arterials during rush hour).

• Parking requirements / standards (Min size per dwelling), going for maximum parking allowance

• Unbundle Parking

• Mandatory off-street parking proof to purchase vehicle

• Bicycle Parking

• Parking information systems
Strategies I

- **AVOID**
- **SHIFT**
- **IMPROVE**
Strategies

Reducing the need for car travelling and parking

- Coherent and integrated urban development concepts
- Compact city with mix of urban functions
- Maximising urban mobility while minimising length and number of necessary trips
Strategies

- Commendable **alternatives** to car usage e.g.:
  - Fast, safe, accessible, reliable and comfortable Public Transport network
  - Non-motorized private transport infrastructure for pedestrians and cyclists

- **Intermodality** between transportation systems (transport associations with common ticketing) as well as between private and public transport (P+R)

- Parking **guidance** systems for MT
Strategies

- Pricing (on-/off-street)
- Smart pricing
- Time limit of maximum stay
- Limitation of available parking places
- Parking zones
- Residential parking only
- Stringent enforcement
- Physical (urban) design
- New technologies

Both images: commons.wikimedia.org

S: Broadus, GIZ Photo DVD
Measure it, Manage it, Price it

- Parking regulation, management, enforcement, pricing is key TDM strategy - needs legal, institutional support
- London sets parking **charges to keep average 85% occupancy** (this to minimize idle search and have high occupation)
On-street pricing I

No meters  Meters  Prices quadrupled

Grosvenor Square, London

Source: TRL in ITDP (2011): Europe's Parking U-Turn
Comparison of parking fees in European cities (On-street per hour, CBD) with costs of single bus fare (Survey by GTZ, 2008, www.sutp.org)

“Parking fees should be higher than a single bus fare”
Limitation of available parking lots

Conventional approach: Minimum parking requirements in order to meet all the demand

- Problematic in dense urban areas
- Feeding the “predict and provide” spiral
- Subsidization of parking at everyone’s expense

Alternative: Meeting only minimum level of demand in urban centres

- Short-term parking is more space efficient than all-day parking
- Shifting parking to periphery (P+R)
- Promoting public transport and non-motorized individual transport

Strategic steps of implementation

- Access limitation to city centre
- Parking pricing
- Implementation of parking zones
- Increased public awareness
- Improve other transport modes
- P+R facilities
- Reduced parking supply
- Improved enforcement
3. BEST PRACTICES
“Being mobile in Munich through parking management” (Promo-slogan City of Munich)

Policy Goals (1998-2003 MOBI NET)

- Mitigation of traffic
- Promoting alternative modes
- More livable public space
Munich

**Strategies**

- Attractive public transport, P+R and B+R facilities
- Demand-orientated parking guidance systems
- Parking zones with different characteristics
- Stringent parking regulation throughout the city
- Parking pricing throughout the city
- **Maximum** parking standards for new buildings
Example I: Parking zones

- No parking allowed (red)
- No parking allowed (resident parking at night)
- Alternating no parking-mixed parking (mixed parking at night) (orange)
- Alternating mixed-short stay (all €1/h, residents free at night) (yellow)
- Alternating resident-mixed (visitors €1/h, residents free) (yellow)
- Altstadtring special short-stay (visitors €2,5/h, 2 h max, residents with special permit only)
Example II: Park and Ride

- 120 parking facilities for intermodal transport at rapid railway or metro stations
- 26,100 parking lots available, of which 25,300 are used on an average working day

Source: Kuehn, GIZ Photo DVD
Munich

Parking management in numbers

- Car trips: - 14%
- Bicycle: + 75%
- Walking: + 61%
- 1,700 fewer automobiles owned by residents
- Reduction of overnight parking by 25%
- Reduction of all-day parkers by 40%

Source: ITDP (2011): Europe’s Parking U-Turn
Graz/Austria

- Corridor of urban development exclusively along rail linkss
  - Target 2021: Reduction of motorized traffic to city centre by 33%, higher share of NMT
- Extension of rapid transit railway services (+150%)
- Parking regulation throughout the city combined with Web-GIS based parking guidance
- Lower parking tariffs for eco-friendly vehicles
- Calming traffic and upgrading urban space in centre

Source: RVK Graz (2010)
Graz

Examples

- Parking zones:
  - Blue: € 1,2/h (3 h max.)
  - Green: € 0,6/h (no max.)

- Vending
  - User-friendly innovative technologies as pay-by-phone tickets

- Eco-tariff for vehicles in the limits of
  max. 140g CO2/km (gasoline) or 130g CO2/km (diesel) may use the “Umweltjeton”

Source: CIVITAS
**Integrated transport concept for Commuters**

- High level of suburbanization
- Corridor of urban development exclusively along newly built rapid commuter railway lines
- High share of single-passenger cars entering the city as the major challenge
- Competitive rapid-trains: frequent services, large network covering even remote areas
- Introduction of P+R and B+R with 15,000 bike stands in the city's outskirts
- Number of commuter rail PAX increased by 300% (1991-2001)

Promotion of PT & NMT in the city centre

- Prioritization of PT on all traffic-light systems:
  Slower car traffic in favor of fast and competitive trams

- Redevelopment of streetscape:
  - Reduction of on-street parking
  - Shared space for pedestrians, cyclists and public transport
  - Livable urban space

- Strict standards on maximum parking, e.g. residential:
  1 parking space per 120m² of living space
  forcing many residents to park their car outside the city,
  share cars or use alternative modes of transportation

Source: Wright, GIZ DVD
Source: Website City of Zurich
Source: Wright, GIZ Photo DVD
Zurich

Promotion of PT & NMT in the city centre

In numbers:
- 10,000 off-street parking places
- Minimum parking standards for buildings reduced by 40% (equivalent to the new maximum)
- 300 km urban cycle routes (out of total 800 km street network) developed

Modal split in Zurich 2000 and 2005

Source: ITDP (2011): Europe’s Parking U-Turn
Parking Management – Other Measures

• Strict reductions in the number of parking lots in the city centres
• Closing of particular streets or areas for passenger cars (except deliveries and taxis, and sometimes buses)
• Restricted parking areas (“Residents only“)
• Parking guidance systems
Parking Management – Pricing in Germany

- All parking paid via meters & ticket vending machines
- City parking costs 1-3 Euro/hour
- Bremen and increasingly other cities: Parking tickets may be used by two persons as public transport tickets for trips within city center during the parking time
- All mega events (concerts, sports events): the entrance ticket includes public transport ticket
Alternatives to Car Parking
Bike Parking at Major Activity Centers & Public Transport

Long Beach, California

Muenster, Germany

Chicago's Millenium Park
Expanding Transit with Bicycle Access/Egress

- Expands walk access at both trip ends
- 10-100 times cheaper than park-and-ride (5500 Euro per car parking lot)
- Requires guarded bike parking, racks, safe routes leading to stations and key stops
Bikes as a low cost feeder system: Bogota BRT Phase II has Bike parking at Terminals
Bike Sharing

1st Generation: Free Bikes

2nd Generation: City Bikes

Bike Sharing - Generations

3rd Generation: Smart Bikes
Velib or “Freedom Bikes”: Smart Bike Fleets

• Parked at numerous locations throughout cities
• Available free for initial ½ hour with inexpensive system registration via kiosk
• Paris has 23,000 bikes; Wuhan/CN 90,000 bikes
• Berlin, Vienna, and many other European cities have smaller fleets
• More than 400 PBS worldwide
Conclusion: Some Key Concepts for Parking Management

- Manage and price for 85% occupancy of on-street spaces to maximize value of parking assets
- Limit and regulate parking in central areas
- Establish maximum, not minimum parking requirements
- Use markets and taxes to ensure high daily parking fees while keeping short-term parking fees more modest to support retail
- Encourage employer provided public transport, discourage free parking

- Discourage free parking provision in urban centers
- Use smart card systems to manage priced automated parking
- Promote bicycle parking, smart bikes, bicycle linkages to public transport
For further information visit:

German International Cooperation
www.gtz.de\transport

Sustainable Urban Transport Project
www.sutp.org