

The Transition from a Demand - Based Standard to Parking Limitations that Support Mass Transit

Introduction

Urban transportation policy and the reduction of carbon emissions in cities in Israel are based on the following guiding principles:

- 1) Reduce the number of cars entering the central business districts by reducing the supply of parking.
- 2) Increase accessibility to public transportation.
- 3) Increase the density of housing and employment.

These principles are to be accomplished by the following methods.

- 1) Increase floor area ratios (F.A.R) for building in areas well served by public transport.
- 2) Designate land uses according to their accessibility profile.
- 3) Meet residential parking demands on the same lot (plot of land) as the residences.

This paper outlines the trials and tribulations of drastically reducing center city parking and a variety of ancillary measures to aid in the transition.

Background

Israel has a population of seven million and a land area of 22,150 km². Average density is 305 persons per km². Average annual population growth is 1.8%, reflecting an accelerated course of change.

The projected population for 2020 is nine million, The projected annual demand for new dwelling units is 50,000. Dwelling floor space per person is anticipated to increase from 28 to 39 m².

Building stock projections are the addition of 175 million m² for residential purposes and 100 million m² for non-residential uses. All together 600 km² will be added to the built area which in 1995 was estimated at 1200 km². It is further estimated that expenditures for infrastructure will increase from \$25 to \$120 billion. The annual increase in human capital investments should average 13% which translates into an annual average increase of \$1 billion.

Most future development in Israel will have a distinct urban character, It will be characterized by the consolidation of large urban blocks, by medium to high building density and by the significant strengthening of urban lifestyle:

Spatial Planning and the Main Transportation Systems

Israel has a comprehensive National Outline Plan for Construction, Development and Conservation (NOP 35)

NOP 35 consists of statutory instructions and maps as well as recommendations on complementary policy measures which should be taken by authorities to assure the achievement of planning goals. The statutory component of the plan highlights such principles as contiguous development, minimum density for residential uses, urban regeneration and open space protection. The plan promotes public transportation, facilitates the reduction of social gaps, encourages the integration of infrastructure corridors and emphasizes environmental sustainability.

The planned national transportation network, including highways and railroads, was consolidated in recent years into a defined system with an organized hierarchical structure: This network will well respond well to Israel's transportation needs in the next generation. A main planning principle of NOP 35 is to assimilate the road and mass transit network and to structure the urban texture in full coordination with the existing and planned transportation system. NOP 35 calls for urban development to be adapted and linked to the transportation system, especially mass transit. It instructs the authors of local and district plans to concentrate development contiguous to the public transportation axes and in direct relation to them. The peak points of urban density will be around the main stations of mass transit systems and in the transfer points between different transportation modes. Their very development will be conditional on available or planned public transport. NOP 35 instructs planning agencies dealing with significant local expansion plans to submit a transportation statement that ensures accessible and appropriate public transportation.

Location

Israel has three major metropolitan areas: Tel Aviv, Jerusalem and Haifa. Tel Aviv –Jaffa is one municipality and has a population of 371,000. The white city of Tel Aviv is a world heritage site. It is also at the center of a coastal plain metropolitan area that exceeds 1 million population. Jerusalem is Israel's most populous city with 706,000 inhabitants. It is also a world heritage site. Finally, Haifa with 268,000 population and surrounding urban areas that bring it to in excess of 500,000 inhabitants, is the metropolitan area of northern Israel.

The National Planning and Building Board of Israel in a policy document in 1989 stated:

"only a combined fixed guide way vehicle system that is not restrained by city traffic but is coordinated with bus service (fee wheeled vehicles) can provide the public transportation that is necessary for the sound functioning of the (Tel Aviv) metropolitan area and its continued urban development".

This policy document of twenty years ago set in motion transportation and urban development policy changes that are still reverberating. This is true not only for the Tel Aviv metropolitan area but for the Jerusalem and Haifa metropolitan areas as well.

Light rail networks are in various stages of planning, approval and construction in the metropolitan centers of Tel Aviv, Jerusalem and Haifa. Jerusalem's network is due to be the first operational system in approximately a year and a half.

Parking Regulations

The Planning and Building Law of 1965 as amended authorizes the Minister of the Interior to enact Regulations with regard to the installation or arrangement of parking places, the storage of vehicles in proximity to buildings and access to these areas. In fact there have been Parking Regulations since 1983. These regulations stipulate a single national parking standard but allow jurisdictions to set different parking standards in local outline plans.

Unless local jurisdictions set parking standards as part of their local outline plan, and many do not, the national standard applies by default. The 1983 parking standard as well as most of those in local outline plans over the past twenty five years are based on a predict and supply approach. Without entering into all the various nuances of the Parking Regulations the essential requirements of the old and new parking standards are as follows in the attached charts for several land uses.

The basic assumptions of the existing and new regulations are different.

The existing regulations viewed the preferred place for parking stipulations to be in local outline plans. The national standard was for those instances in which the local planners neglected or for other reasons chose not to consider the particular local parking needs. The new regulations supersede local plans and apply almost everywhere and severely limit local discretion.

The existing parking regulations stipulated a minimum number of parking spaces. Architects, engineers and entrepreneurs were free to request from the local planning authority parking spaces far beyond the minimum, stipulated in either the national standard or the local outline plan, whichever applied.

The new regulations generally state the maximum allowable number of parking spaces. Local and District Planning authorities may not approve plans that exceed these maximums unless they receive the permission of the National Planning and Building Board for a special instance. In certain cases, generally in the periphery the regulations state minimum requirements. These of course may be exceeded at the discretion of the local or district planning jurisdiction, whichever has the authority in the particular circumstance.

The new regulations divide the country into three main divisions:

1. Urban centers, These include the three main cities of Jerusalem, Tel Aviv and Haifa as well as the large cities surrounding Tel Aviv.
2. Urban peripheries, These include all the remaining cities in the Jerusalem, Tel Aviv, Haifa and Central Districts that are not defined as metropolitan core area. These are the densely populated, areas of the center of the country outside of the center cities and the inner ring cities around them.
3. All the Rest – These are essentially the jurisdictions in the Northern and Southern districts. Included are Beer Sheva and Eilat in the south and Nazareth, Tiberias and Karmiel in the north. This area includes urban, suburban and rural communities away from the country's main densely populated areas.

In addition to the three main geographical divisions, there is a further division of each according to its proximity to mass transit:

1. Region A is those areas within a 350 meter radius of a mass transit station.
2. Region B is those areas beyond a 350 meter radius, but within a 650 meter radius of a mass transit station.
3. Region C is areas not meeting the criteria for regions A or B.

A Mass Transit System is defined as public transportation serving many riders and operating in a separate dedicated path either according to an approved land use plan or a decision of the Supervisor of Transportation.

The regulations require that building permits stipulate the number of parking spaces to be provided together with the necessary area to allow for the entrance and exit of vehicles. The regulations also deal with a variety of issues beyond the main scope of this paper such as parking requirements for other land uses, bus and truck parking, public parking garages, and parking requirements for the logistical operation of certain facilities. The new regulations for the first time establish parking requirement for two wheeled vehicles: motorcycles, scooters and bicycles.

Parking Places for Private Vehicles					
Selected Land Use	Existing Standard (minimum)	New Standard (maximum unless otherwise noted)			
Category	For all areas	Category	Region A	Region B	Region C
Residential		Residential			
Residences up to 120 m ²	per d.u.	Residences up to 70 m ² including senior citizen housing and dormitories	up to 1 per 5 d.u	up to 1 per 5 d.u	1 – 5 per 5 d.u
Residences above 120 m ² in multi family buildings	per 3/4 d.u.	Residences above 70 m ² (average) In multi family buildings	1 – 2 per d.u	1 – 2 per d.u	1 – 2 per d.u
Residences above 120 m ² in single family building	per 1/2 d.u.	Single family residences	two per residence	two per residence	3 – 7 per residence
Senior citizen housing	per 4 bedrooms				
Commercial		All stores			
Supermarkets & department stores up to 2,000 m ²	per 25 m ²	Urban center above 0.4 FAR	per 250 m ² per 500 m ²	per 100 m ² per 500 m ²	per 50 m ²
Other stores up to 500 m ²	per 30 m ²	Urban periphery Neighborhood shopping up to 2,000 m ²	per 100 m ²	per 100 m ² per 50-100 m ²	per 50 m ²
For additional areas above 500 m ² & up to 2,000	per 35 m ²	All the rest	per 50 m ²	per 50 m ²	per 50 m ²
All stores					
For additional areas above 2000 m ² & up to 10,000	per 45 m ²				
For additional areas above 10000 m ²	per 50 m ²				

Parking Places for Private Vehicles (continued)					
Selected Land Use	Existing Standard (minimum)	New Standard (maximum unless otherwise noted)			
Category	For all areas	Category	Region A	Region B	Region C
Offices		Offices including high tech. industry			
Banks Post-office and other counter services other offices	per 30 m ² per 40 m ²	Urban center above 0.4 FAR Urban periphery All the rest	per 250 m ² per 500 m ² per 125 m ² per 35 m ² minimum	per 125 m ² per 500 m ² per 125 m ² per 35 m ² minimum	per 50 m ² per 50 m ² per 50 m ² per 35 m ² minimum
Entertainment					
Theaters and auditoriums	per 5 seats or 5 m ² of the hall	Urban center Urban periphery All the rest	per 125 m ² per 5 seats per 5 seats minimum	per 5 seats per 5 seats per 5 seats minimum	per 5 seats minimum per 5 seats minimum per 5 seats minimum
Movie hall	per 10 seats or 10 m ² of the hall	Same as above theaters and auditoriums			
Social hall restaurants and pubs	per 10 m ²	Urban center Urban periphery All the rest	per 250 m ² per 75 m ² per 10 m ² minimum	per 125 m ² per 75 m ² per 10 m ² minimum	per 20 m ² minimum per 20 m ² minimum per 10 m ² minimum

Politics and Public Acceptance.

The reduction of carbon emissions by limitations on automobiles entering the urban core is an approach that requires integrated policies. Carbon emissions will be reduced if fewer automobile trips are made and the highest and most dangerous levels of emissions in the metropolitan cores will be lower if there is less congestion. Parking regulations can be an effective tool to reach these goals only if combined with efficient mass transportation.

On the one hand there is wide recognition of the need to reduce congestion in center cities. Traffic congestion already exceeds capacity in the central business districts of Israel's major cities. Most politicians and policy makers realize that traffic will soon reach a near stand still at major locations during critical hours of the business day.

On the other hand, there is considerable skepticism about the government's ability to deliver efficient mass transit systems in the foreseeable future. Tel Aviv has discussed a metro for over thirty years. Considerable effort and funds have been invested in planning the system. However financing for the project has not yet been closed and political fights continue over what portions of the system will be underground.

In Jerusalem a bridge designed by famous Spanish architect Santiago Calatrava has been completed at the entrance to the city, creating a landmark for the light rail line that is not yet ready. At a depot at the far end of the city the rail cars are sitting in storage. However the tumult and the distractions to business and vehicular access in the downtown caused by the construction of the light rail line have in the meantime given it a bad name.

Haifa actually has the country's only operating metro the Carmelit, but it is a very limited small line that does not provide significant service to many users.

Another impediment to the parking regulations is that Israeli drivers are not accustomed to paying dearly for parking. The most expensive parking in Israel is in central Tel Aviv, yet a recent survey by Colliers International found that Tel Aviv parking is relatively inexpensive. It ranked 47th in a global comparison of the top 50 most expensive cities of those surveyed and far behind most major European cities. Clearly, limiting parking will make the available parking more expensive.

The result has been a reluctance to enact the parking regulations and considerable delays. This is most unfortunate as in the meantime much parking has been built in the center cities. The results have been the opposite of the declared policies: to reduce the number of cars entering the central business districts, reduce carbon emissions, increase accessibility to and demand for mass transit and increase the density and vitality of commerce and employment. Several years ago, a former Minister of the Interior declared he would be prepared to enact the new parking regulations only when he heard the whistle of the train, referring to the actual operation of the mass transit systems. Among other concerns, he was responding to requests from a number of mayors who feared the restrictive regulations would push potential businesses out of their cities into more peripheral areas that could provide unrestricted parking.

Accompanying Measures and Revisions

The National Planning and Building Board in its last discussion of the parking regulations in January 2009 decided to circulate the proposed new regulations to district and local planning jurisdictions for comment.

Comments were received from all of the district planning commissions and many local planning committees. The level of interest the parking regulations produced is an indication of the development and environmental impact they are expected to generate. The following measures should enable the enactment of the regulations by the end of this year 2009.

Phased implementation

The most complex and perhaps most innovative provisions of the accompanying measures to the regulations are their phased implementation. These measures are intended to address the skepticism about when mass transit will actually function and concern about where new businesses will locate and whether they will survive and flourish in the interim.

New buildings for commerce and offices in areas that do not yet have a functioning mass transit system will receive authorization for parking spaces according to the status and progress of the mass transit system for their area. There are three phases for this arrangement leading up to the full enactment of the restrictive parking stipulations:

Phase I is the day of the enactment of the regulations.

Phase II is the formal announcement of the Ministry of Transport to the relevant local jurisdiction and its planning authority that financial closure for the mass transit system has been achieved.

Phase III is the issuance of a construction permit for the system or the approval of the Supervisor of Transportation for the location of a station, the earlier of the two.

The maximum number of parking spaces will be calculated according to the multiplier of the regulations for the designated land use, area and phase of progress of the mass transit system.

Land use	Location	Phase I	Phase II	Phase III
Commerce	Urban center region A	X 5	X 3.5	X 2.5
Commerce	Urban center region B	X 2	X 1.5	X 1
Commerce	Urban center regions A +B	X 2	X 1.5	X 1
Offices	Urban center region A	X 5	X 3.5	X 2.5
Offices	Urban center region B	X 2.5	X 1.75	X 1.25
Offices	Urban periphery regions A+B	X 2.5	X 1.75	X 1.25

The additional parking spaces as a result of the multiplier will be planned and built in such a manner that within 12 months of being notified by the planning authority that

the mass transit system is functioning they can be converted to the primary function of the buildings, i.e. commerce or offices.

The developer will submit as part of the building permit application a conversion plan for the additional parking spaces and will deposit a financial guarantee to insure its implementation when so directed. This of course will only apply if the developer chooses the option of additional parking beyond that allowed with the full implementation of the regulations.

Residential Parking

The new regulations do not anticipate a major change in the rates of automobile ownership, at least not in the foreseeable future. Rather what will hopefully change are the patterns of use. Automobiles will not be used for the journey to work to the urban centers and to a lesser extent to the urban periphery. Automobiles will most likely continued to be used for leisure activities and certain kinds of shopping.

Accordingly, residential parking has not been significantly reduced and in some instances actually increased. Furthermore the regulations allow for small neighborhood shopping centers of up to 2,000 m² in the urban periphery in order to conveniently serve close by residences.

Persons with Disabilities

Person with disabilities have special transportation needs that the regulations take into consideration.

Legislation in Israel has in recent years expanded the definition of disabilities beyond physical impairments to include sensory and mental disabilities. While public transportation is required by law and is being transformed to be more accessible, it still can not meet all of the transportation needs of all persons with disabilities, Accordingly, the new regulations require that approximately five per cent of the former parking requirements be for disabled persons. Accessible parking is in addition to the parking required by the new regulations and therefore will in the urban centers and urban peripheries be a much larger proportion of the overall parking provided for commerce and offices.

Parking For Two Wheeled Vehicles

The regulations for the first time require a minimum quantity of parking for bicycle and motorcycles and also set several qualitative stipulations. Our search for parking requirement for two wheeled vehicles found many guidelines but a paucity of regulations and wide disparities in the actual stipulations.

Bicycles

<i>Land Use</i>	<i>Minimum # of spaces</i>
Residential	per d.u
Dormitories	per 2 students or d.u
Offices	per 150 m ²
Commerce	per 200 m ²
Schools – (including universities)	per 10 students
Train stations	per 20 persons (arriving not by train)

Bicycle parking must be within the confines of the lot of the building it is to serve and may be inside a locked room of the building unless otherwise stipulated in the building plan.

Motorcycles (including motorized scooters)

Land use residential	Urban Center #urban periphery	All the rest
Multi family housing	per 5 du	per 10 du
Dormitories	per 5 students or 3 d.u	per 10 students or 5 d.u
Offices #commerce	per 100 m ²	per 350 m ²
Schools high schools	2 per classroom	
Universities	per 100 m ²	per 500 m ²
Theaters, auditoriums movie halls	per 10 seats	per 30 seats
Restaurants, pubs	per 10 seats	per 30 seats
Train stations	5% of the anticipated users	20% of the anticipated users

Motorcycle parking must be within the confines of the lot of the building it is to serve and should be at street level and adjacent to the entrance to the building. Each motorcycle parking place must have an anchor attached to the ground or a wall and allow the locking of the motorcycle to it.

Exodus of Business

Concerns regarding the potential flight of businesses from urban centers and urban peripheries to areas that allow greater parking are addressed by the country-wide application of the standard. All areas are covered and exceptions to the requirements are severely limited. The restrictive regulations generally apply over large areas, entire districts and therefore limit the instances in which there are competing jurisdictions with widely different parking requirements.

Conclusions

It is believed that based upon these accompanying measures and revisions the regulations are ready and soon to be enacted. The extensive environmental, economic and planning impacts of parking regulations should not be underestimated. Neither should the political reaction to proposed changes. However I believe these impacts and responses can be effectively addressed. I hope the Israel experience can be of value to other countries and jurisdictions considering major changes to their parking regulations and the severe limitation of parking, especially in urban centers.

References

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David Pilzer, Director, Division of Planning and Building Guidelines and Regulations, Ministry of the Interior, Israel.