

Parallel Session 3A – Station Design 2



# Transit-oriented development (TOD), a recent approach in Iranian planning system to integrate railway station and the city

the case study of Qazvin Railway Station Area



**UIC next station**  
TEHRAN 2019

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# History of rail and the city

Omnibus



horse-drawn carriage that ran along a fixed route 1827 - 1907

Horsecar



horse-drawn streetcar that ran on tracks 1832 - 1917

Elevated train



train that ran on above-ground tracks 1869 - 1973

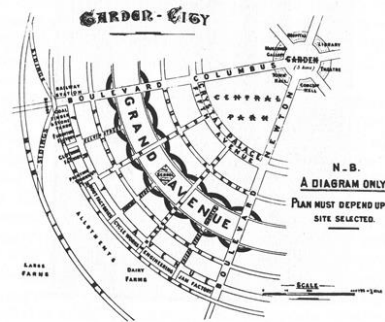
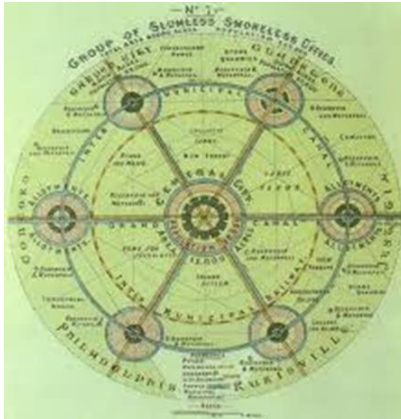
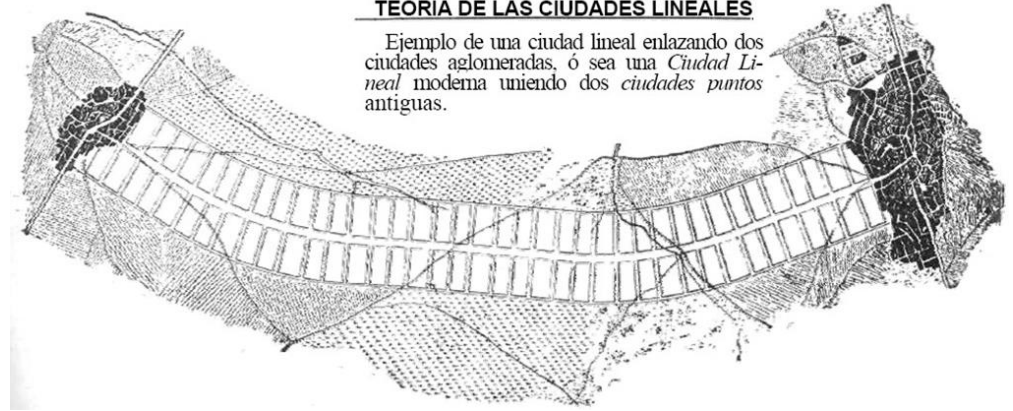
Cable car



streetcar operated by underground steam-driven cable conduits 1883 - 1909

## TEORÍA DE LAS CIUDADES LINEALES

Ejemplo de una ciudad lineal enlazando dos ciudades aglomeradas, ó sea una *Ciudad Lineal* moderna uniendo dos *ciudades* puntos antiguas.

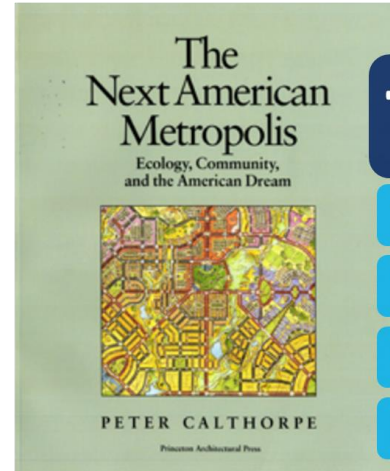


linear city (1882): Arturo Soria y Mata

The **garden city movement**: 1898 by Sir Ebenezer Howard

Fig. 3. Ebenezer Howard, *Garden-City: Grand Avenue*, 1902, in *Garden Cities of To-morrow*.

# What is TOD?



## T.O.D.

Transit

Mixed Use

Walking Distance

Affordable Housing



### Walk

Develop neighborhoods that promote walking



### Cycle

Prioritize non-motorized transport networks



### Connect

Create dense networks of streets and paths



### Transit

Locate development near high-quality public transport



### Mix

Plan for mixed use (e.g., commercial and residential)



### Densify

Optimize density and transit capacity



### Compact

Create regions with short commutes



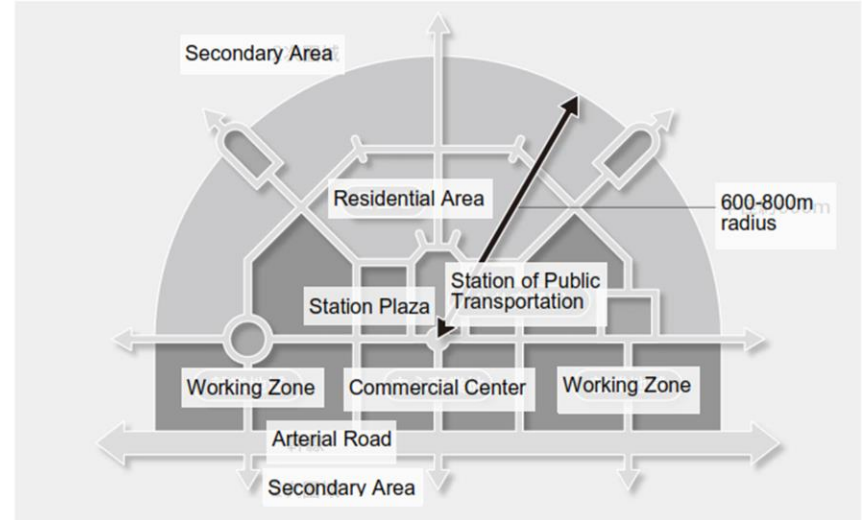
### Shift

Regulate parking and road use to increase mobility

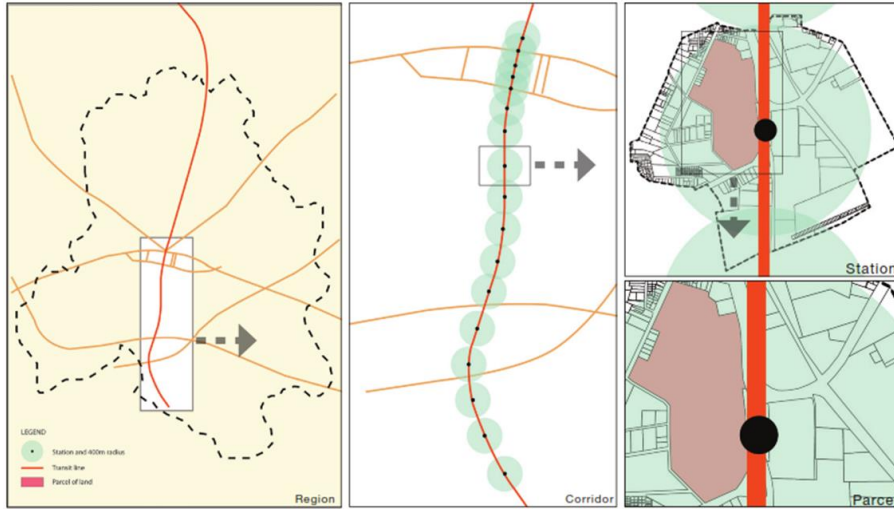
<https://www.itdp.org/library/standards-and-guides/transit-oriented-development-are-you-on-the-map/>

# What is TOD?

A transit-oriented development (TOD) is a mixed-use community within an average 2000 foot walking distance of a transit stop and core commercial area. TODs mix residential, retail, office, open space, and public uses in a walkable environment, making it convenient for residents and employees to travel by transit, bicycle, foot, or car.



# Different TOD levels



An example of 4 levels of TOD planning from transit corridors at regional level to promoting compact mixed use development at site level-Source: IBI Group

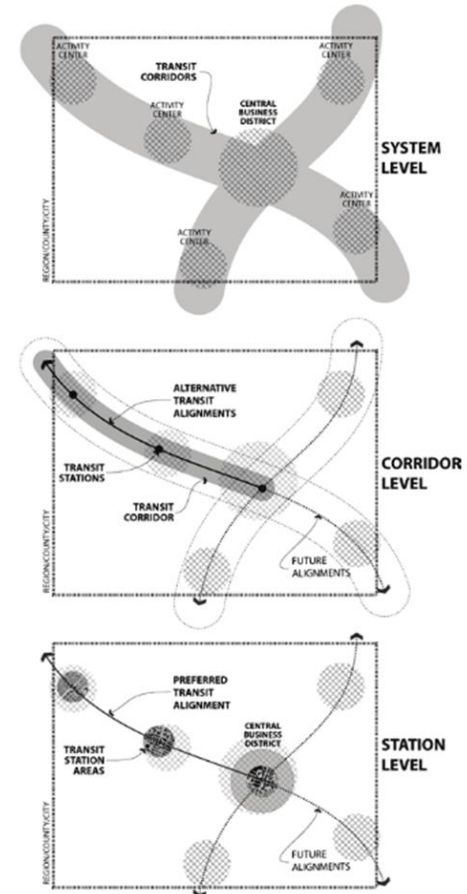


Figure 3: System, Corridor and Station Level Planning

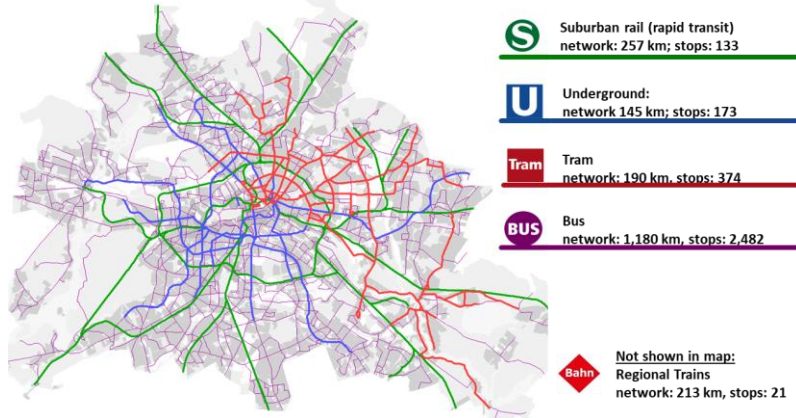
# TOD and railway station area: Berlin Central Station



Source: Dr. Friedemann Kunst

# TOD and railway station area: Berlin

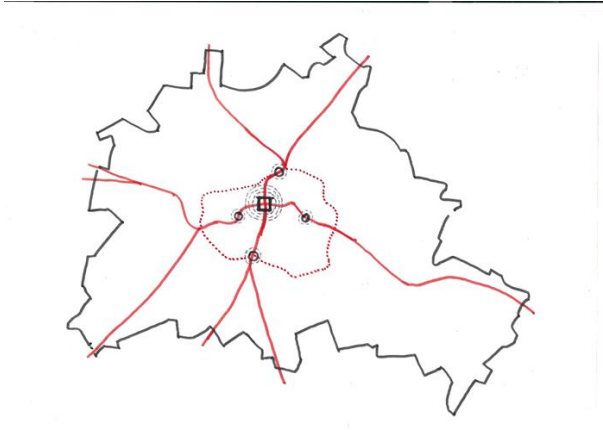
## Berlin-attractive public transport system



Source: Dr. Friedemann Kunst

- New carriages, extension of network, barrier-free access extend capacities, raise attractiveness

# TOD and railway station area: Berlin



Source: Dr. Friedemann Kunst



2008 - The quarter surrounding the Hauptbahnhof

Photo: Dirk Laubner

- Central Station at crossing of diameter lines, additional (minor) stations,
- more centralized urban development

- Construction of new north-South-Diameter line and central railway-station at crossing point, 2006 completed
- development of central station as local transport hub (350.000 daily users)
- development of new urban quarters around the station (former border land close to wall)



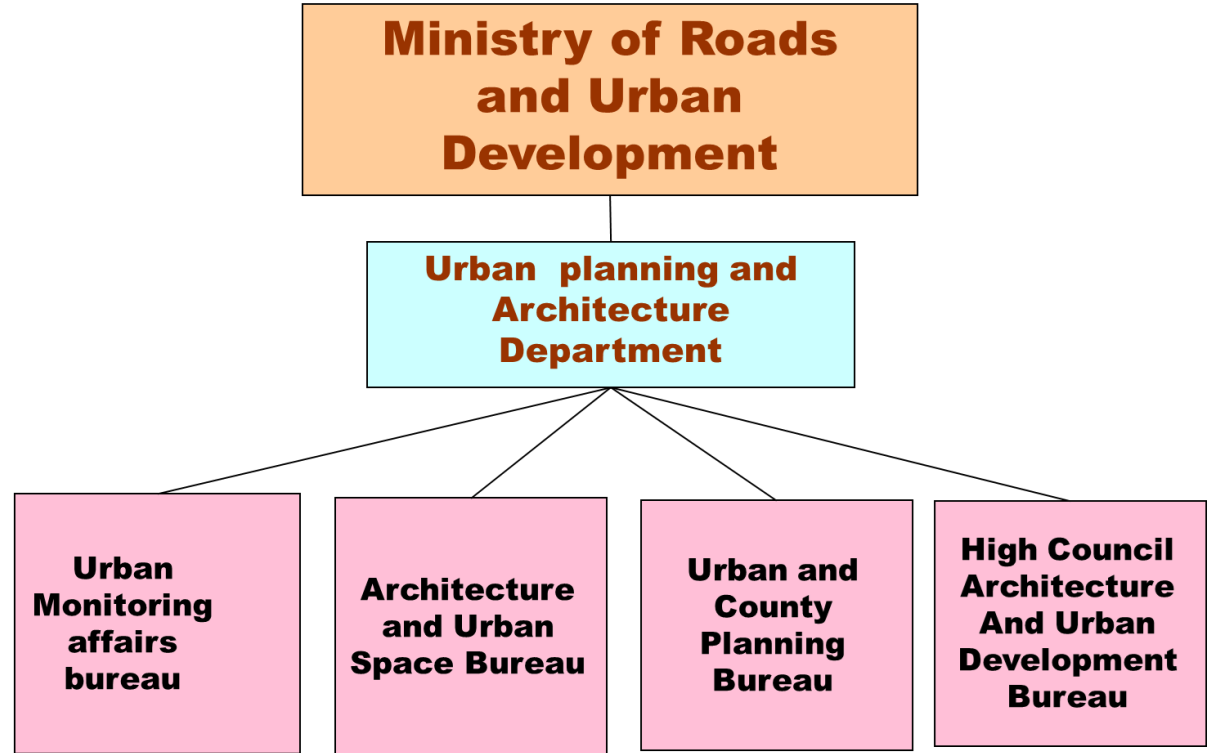
# TOD and railway station area-example: Berlin



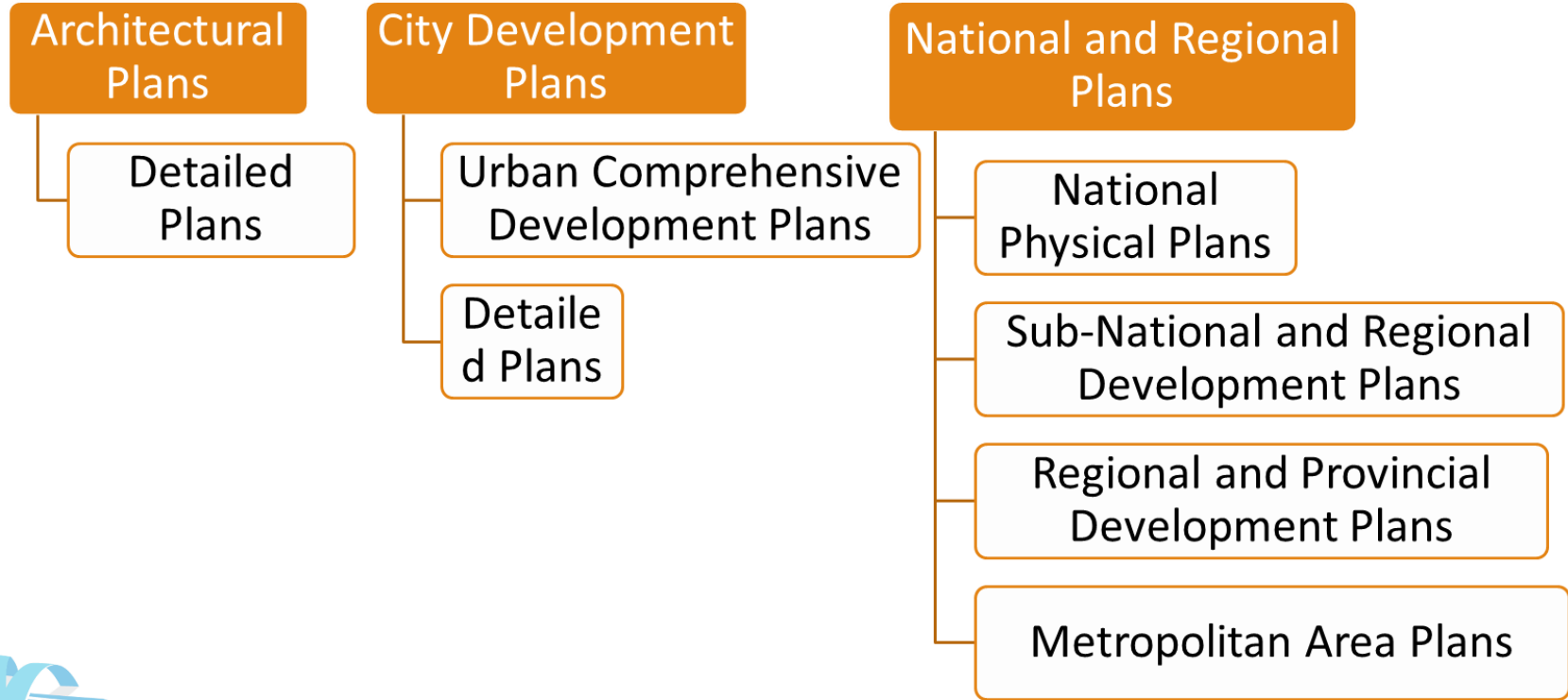
Source: Dr. Friedemann Kunst



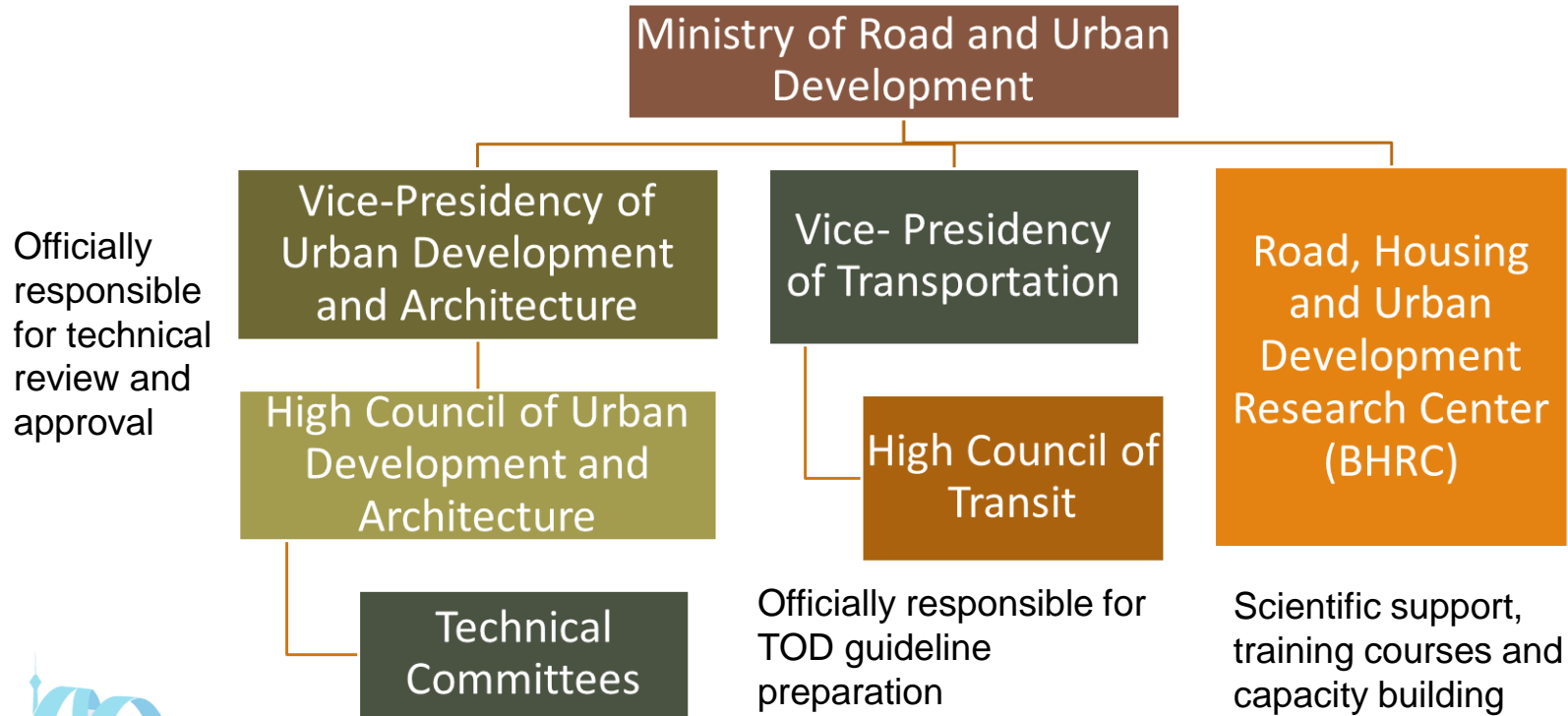
# Iranian planning system



# Iranian planning system-urban planning documents



# Development of national TOD guideline



# Case study: Qazvin



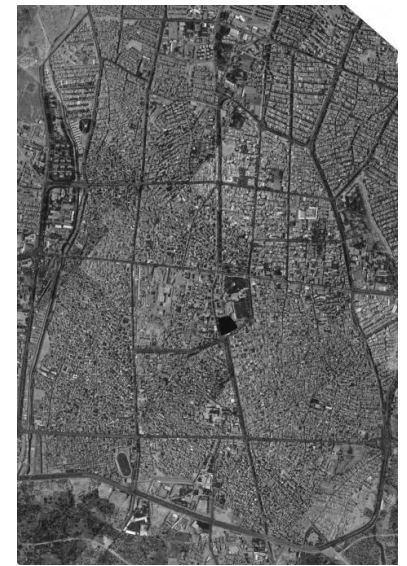
Qazvin-1919



Qazvin-1956



Qazvin-1975



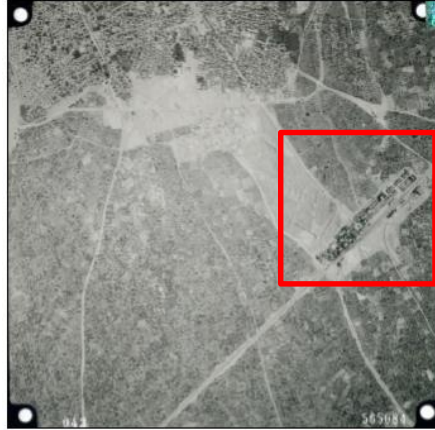
Qazvin-1994

Connection of the city to the national railway: 1939  
Source: Iran National Cartographic Center

# Case study: Qazvin



Railway station: 1956



Railway station: 1964



Railway station: 1975



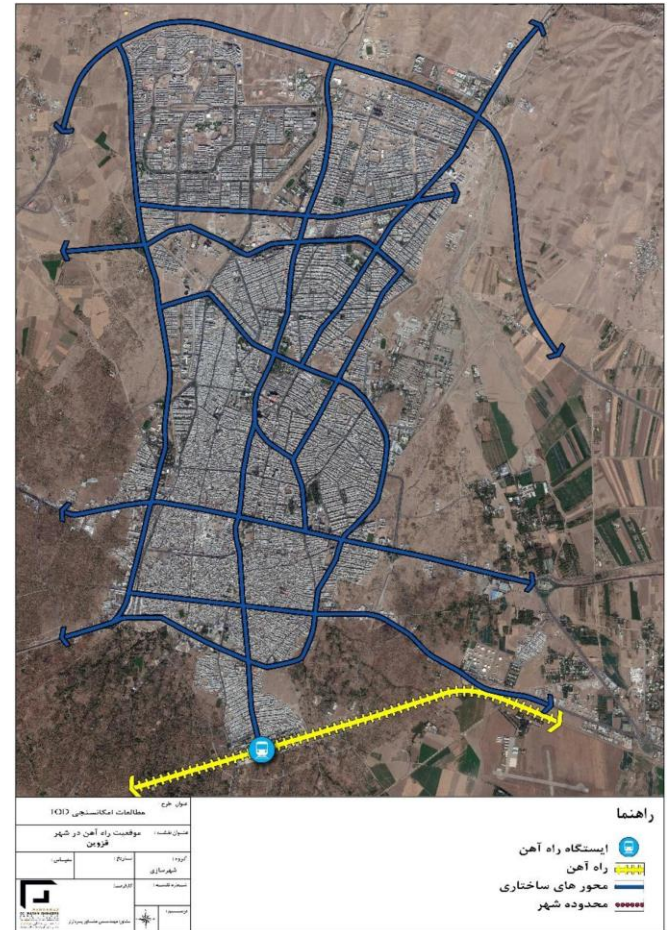
Railway station: 1983

Connection of the city to the national railway established on 1939  
Source: Iran National Cartographic Center

# Case study: Qazvin

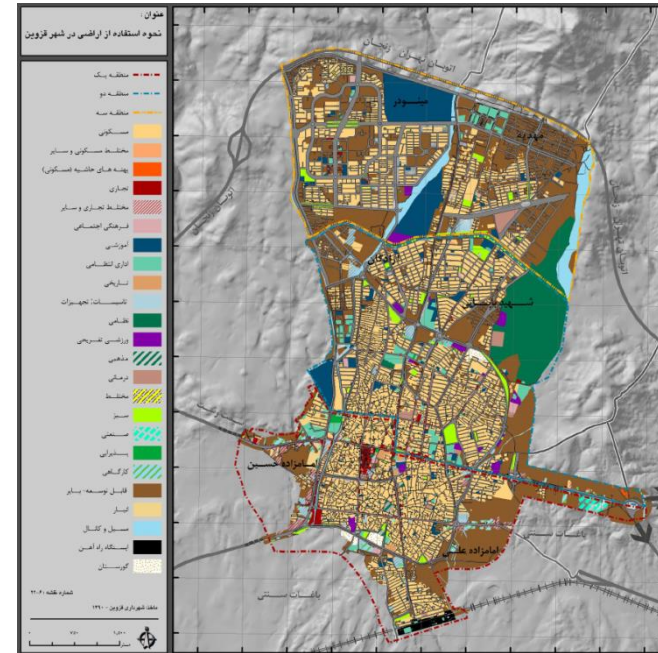
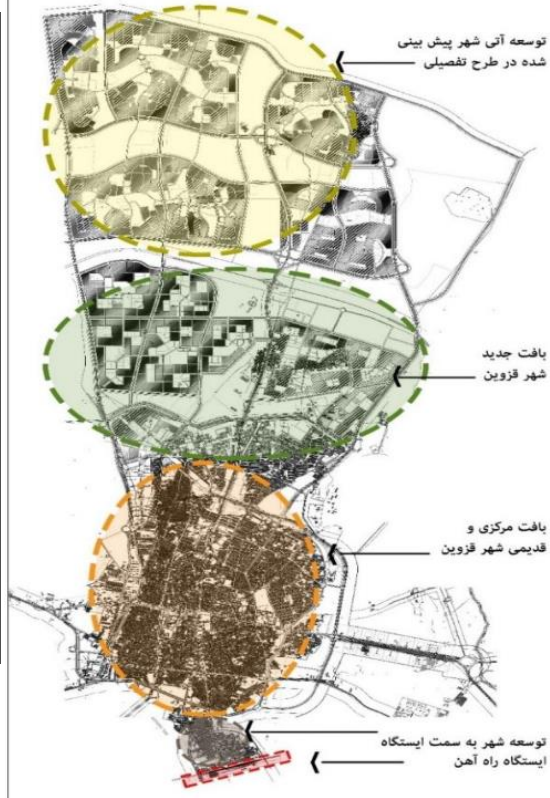
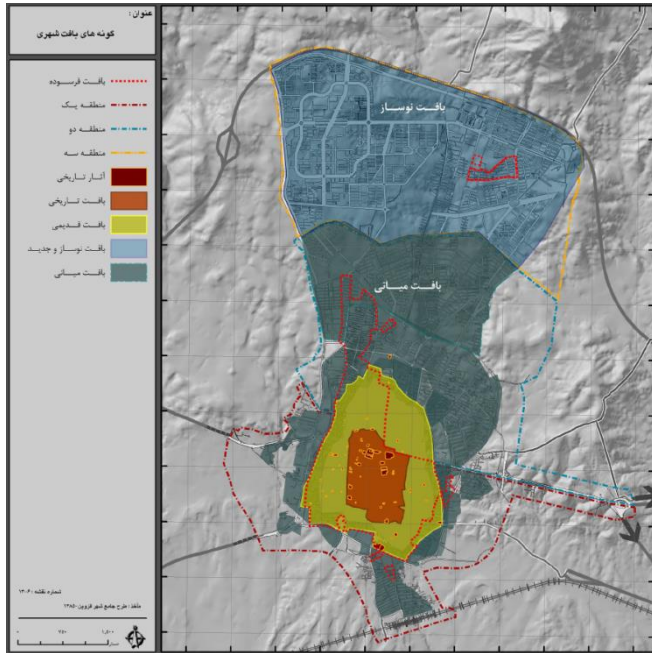


Railway station: 1994  
Source: Iran National Cartographic Center



Source: Pardaraz Consulting Engineers 15

# Case study: Qazvin



Source: Qazvin city Atlas, Rafieian et.al, 2012



# Case study: Qazvin



Qazvin central railway station

Source: Fatemeh Sharifi

# Case study: Qazvin



Qazvin central railway station

Source: Mahta Mirmoghtadaee

# Case study: Qazvin

## Projects developed in Qazvin with TOD approach

Project title	Prepared by	Funded by	TOD theme
1-Qazvin TOD studies	Atieh Saz Consulting engineers	Road and Urban Development Organization of Qazvin	To develop public transportation corridors to connect railway station and the city
2-Regeneration of Railway Neighborhood with TOD approach	Naghsh-e-Paydar Consulting engineers		Station area as an urban catalyst to support urban regeneration
3-Comprehensive railway station area plan with TOD approach	Heram Pey Consulting engineers	Railways of Islamic Republic of Iran	To create vibrant urban environment in the station area

- Project outcomes:

1- A priority corridor has been defined, connecting the railway station to the city

2-Through an participatory approach, urban regeneration plan has been developed

3- With the focus on TOD approach, station area development plan has been developed

# Conclusion

- TOD as the main national policy to integrate city and the railway station
- Definition of study projects according to special situation of each city and its connection to the railway station
- Considering an holistic approach to integrate study projects
- The need for regeneration of urban areas (generally poor quality neighborhoods) with the focus on the station as an urban catalyst
- Location of new railway station with good connection to the city

**Thank you**  
for your kind attention

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