

# Transit Oriented Development Brief Introduction



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**Plzen 05.04.2017**

**Smart and Healthy Transport in cities**



# What is Transit Oriented Development?

- **Transit-oriented development, or TOD, is an approach to development that focuses land uses around a transit station or within a transit corridor.**
- **TOD may be relevant in inner city areas (in the US) but it is most relevant outside the inner city as such, along the entire transit corridor in a given urban agglomeration.**
- **Active contribution required at governmental, community and transport company levels.**
- **Where land is to be developed which belongs to the transport operator the term “Transport Joint Development” is applied.**

# Main Characteristics of TOD

It is characterized by:

- A mix of uses
- Moderate to high density
- Pedestrian orientation/connectivity
- Transportation choices
- Reduced parking
- High quality design
- Long term development perspective

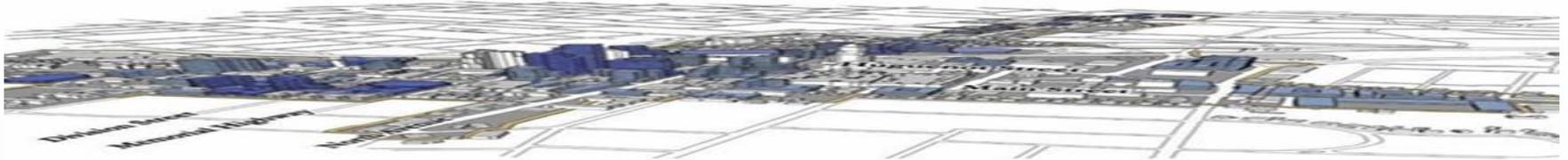
<https://www.youtube.com/watch?v=XYw8XXIMuLM>

The rule of thumb is that TOD occurs within 300 to 400 m, or a five to seven minute walk, of a transit station.

# Core components - illustration



# Why Transit Oriented Development?



**Transit-oriented development is a response to living conditions in urban areas:**

- **Rising energy prices**
- **Road congestion**
- **Climate change**
- **Shrinking household sizes**
- **Increasing demand for urban living**
- **Interest in green building and walkable neighborhoods**

# Benefits

- **By developing more "urban-scale" buildings with reduced parking ratios and ready access to transit, TOD improves air quality and reduces auto traffic congestion. Studies indicate that TOD can reduce traffic congestion and air pollution by up to 25 to 50 percent compared to typical suburban development.**
- **By involving real estate and business community at large experience with new development patterns with less car dependance is gained.**
- **The sense of community around transit stops improves and new approaches and instruments are born to support this development**
- **It re-inforces socio-cultural trends among the urban younger population – lower car ownership, less car use.**

# What are the obstacles?

- **Few real Estate Developers:** It is still often hard to convince developers and financiers that TOD can be profitable.
- **High Initial Public Investment Costs:** TOD can lower infrastructure costs in the long run but initial TOD infrastructure needs are considerable and can require extensive public investment.
- **Unsupportive Regulatory Framework:** Many cities have zoning and land development codes designed for automobile-oriented, single-purpose, suburban-scale development.
- **Community Resistance:** Existing local neighborhood may be opposed to higher density and change of suburban life-style

# What are the costs?

- **The core public transport infrastructure to serve corridors with TOD potential, i.e. mainly new tram, or metro lines or improvement of commuter rail or BRT**
- **At the stations: Expansion of public infrastructure such as roads, water lines, electrical services and sewer lines.**
- **Increased service requirements (e.g. fire and police, road maintenance, etc) that result from additional kilometers of roadway.**

# What are the savings?

- **TODs use existing infrastructure, and can often be served by existing municipal services, requiring little additional investment.**
- **For new, denser development at transit stations, communities may be able to realise economies of scale in new infrastructure investments.**
- **By reducing dependence on the automobile, TOD reduces traffic congestion and its associated costs to municipalities.**
- **TODs have a positive impact on property values. Property values rise with proximity to transit stations.**
- **This fosters growth of the municipal property tax base, the primary source of revenue for US American municipalities.**

# Why can TOD be relevant for Europe?

- **TOD may sound trivial in European cities which have historically developed around rail transit systems and which provide large scale alternatives to car transport**
- **But some lessons from the US experience may support the shift to a CO2 neutral urban development. They include**
- **Inspiring forms of participation of the business community and local residents**
- **Innovative forms of direct or indirect financial contributions from land owners and business**
- **Financing tools, including project bonds and transit related mortgages**

# TOD examples

- **USA/Canada:** A large group of US cities of all sizes and throughout the entire US, probably in almost all of the large metropolitan areas. My own research related to 7 cities / around the US: New York/New Jersey (Metro, Rail, Tram), Washington DC (Metro, BRT), Atlanta/GA (Metro), Dallas/TX (Tram), San Diego/CA (Tram), Portland/OR and Toronto/ON (Metro).
- **Asia:** China, almost every large metropolitan area and the interconnections between them, Bangkok, and wherever public finances allow to build BRT or rail transport systems
- **Latin America:** Large number of metropolitan areas,
- **Australia:** All metropolitan areas
- **Europe:** The shining example at every TOD conference....

# Washington, DC – Transit Joint Development

## Joint Development Forms include

- Leasing of train stations and/or space within the stations to transit oriented users/business
- Leasing Property adjacent to stations
- Leasing «air space» or underground development rights
- Station Connection Fees
- Property sales

## Regulatory framework includes

- Rail Transit as core element of metropolitan development
- Regional Guidelines, Local Zoning, Parking Policy
- Long term Transit Joint Policy
- Station Area Development Activities

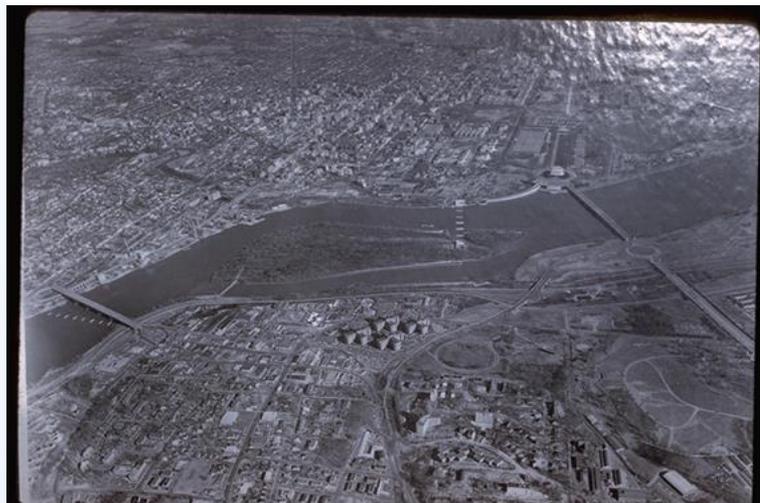
# Washington DC - Examples



*Illustration 6.6 Ballston (Parkington) in the 1960s*



*Illustration 6.7 Ballston (Parkington) in 2000*



*Illustration 6.9 Arlington County at the end of 1960s, before Metrorail*



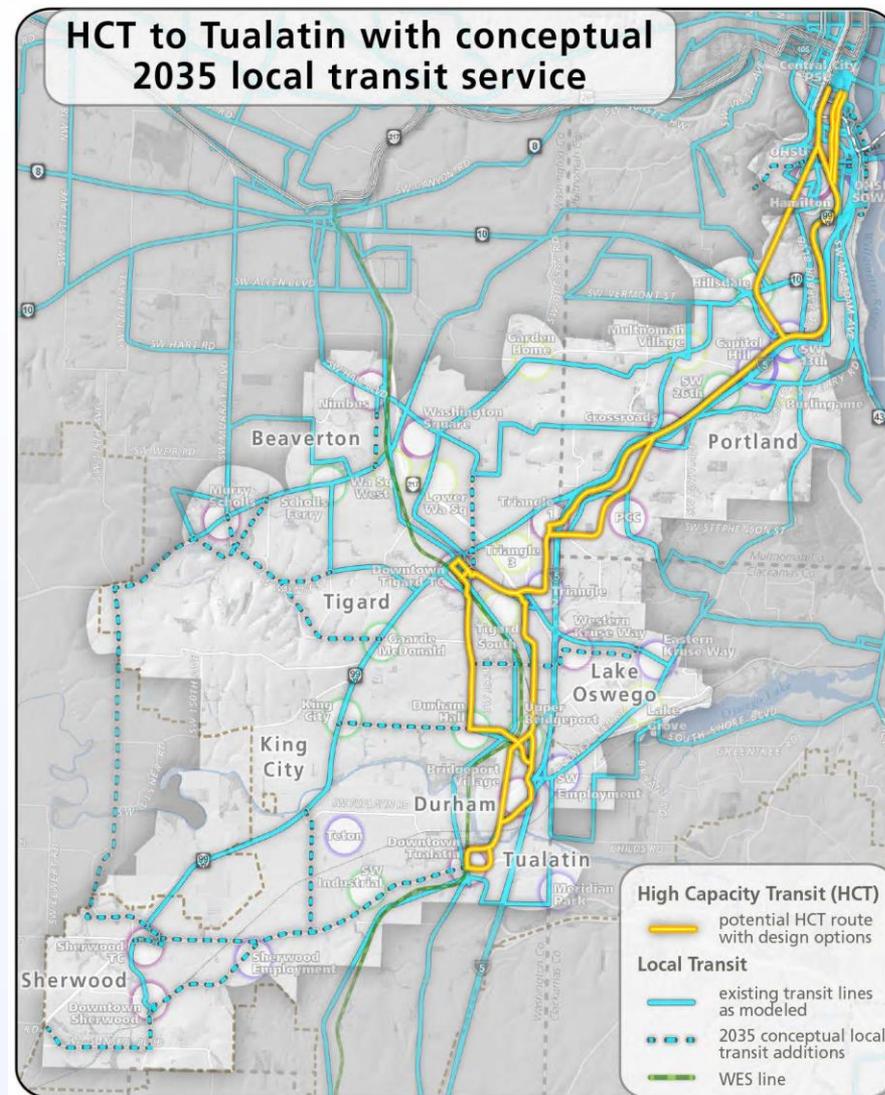
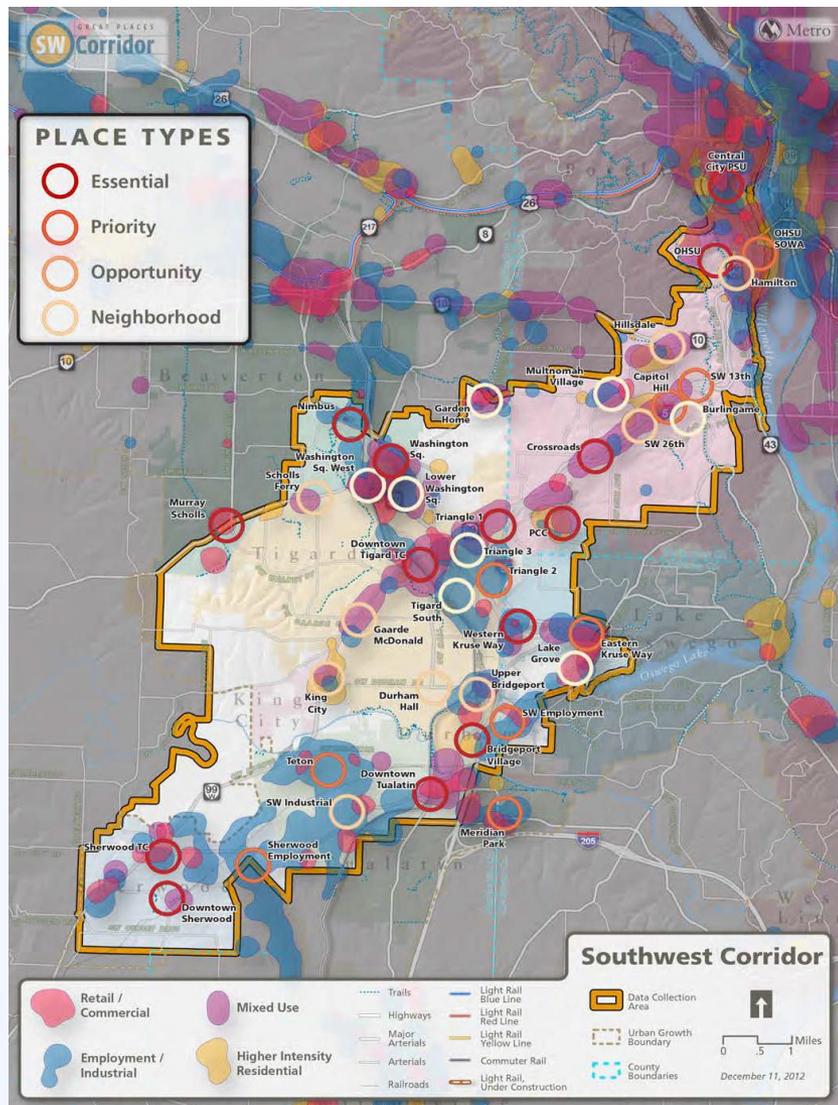
*Illustration 6.10 Ballston-Rosslyn corridor in 2000*

# Portland/OR – Transit Oriented Development

Tools to influence development in station areas include

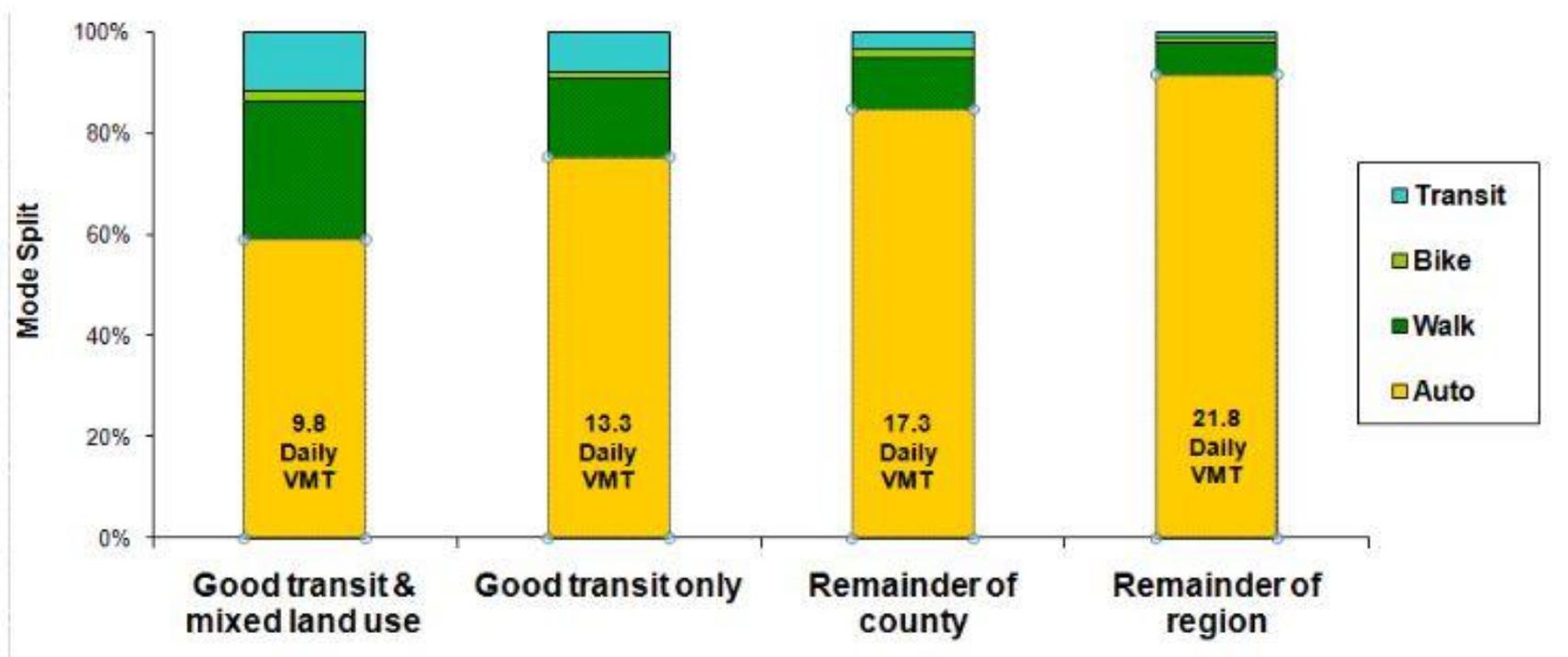
- **Public private agreement for joint development at new lines**
- **Transit oriented development program**
- **Local Improvement Districts**
- **Urban Renewal Districts**
- **Municipal land acquisition**
- **Locating Public Facilities**
- **Subsidised Housing**
- **Station Area Development Activities**
- **Economic Development Agencies and Powers**
- **Tax Exemption Program**

# Portland/OR- Example Southwest Corridor



# Transport impact of TOD

TOD Impacts On Mode Split in Portland, Oregon (Ohland and Poticha 2006)



# Atlanta/GA - King Memorial Rail Station



**MARTA announced Partnership with Place Properties/H. J. Russel & Co. to develop a 50 M TOD project for 400 apartment units and 1000 square meters of retail space (initial project above from Walton Communities in 2014)**



# TOD- Financial Instruments

- **Project related bonds**
- **Benefit assessment districts**
- **Voluntary agreements to split costs**
- **Transit Impact Fees**
- **Tax Increment Financing**
- **Location Efficient Mortgage**
- **Grant Anticipation Revenue Vehicle**
- **State Infrastructure Banks**
- **Different levels of private risk in urban transport projects (Design-Build, DBO, DBOM, DBOMF, DBOMFT)**

# Municipal Bonds

- **Are the most important instruments of public investment funding in the US**
- **Two types: «General Obligation Bond» (GO Bond), secured (at municipal level) by property or sales taxes and «Revenue Bonds», secured by specific sources of project – related revenues, including highway tolls, airport landing fees, passenger fees and others.**
- **A special form is the so called «Grant Anticipation Revenue Vehicle» (GARVEE) bond. Grant Anticipation Notes are declarations of the local government to obtain the requested portion of federal and state funding, only to be used for transport investments. This type of bond includes relevant investor risks (example: Moody's downgrading of 17 GARVEE bonds in 2014), which are priced in. Became less important in low interest rate environment. Total volume currently below 20 bn USD.**

# Tax Increment Financing

- **Tax Increment Finance (TIF) districts are set up in many municipalities to finance the local portion of new infrastructure systems or the necessary improvements to maximize the benefits of these infrastructures.**
- **In a number of cases they serve as a substantial instrument for the financing of new rail-transit systems and new rail stations or to the improvement of areas around existing stations. Property or sales tax is frozen in a certain area delineated by the local government around (future) stations.**
- **All property (or – depending on the respective state law – sales) tax earnings above a set level contribute towards infrastructure financing. The distribution of these funds is a matter of the local government.**

# Voluntary contributions: Benefit assessment districts

- **Property owners who are expected to benefit from new or improved transportation infrastructure pay a portion of the value increase expected from public investment. Relies in certain cases on the acceptance by a majority of property owners near a future station. In other cases, the assessment may be imposed by the decision of the municipal council. The share to be paid by each property owner depends on the expected advantages and, for example, is greater when the property lies closer to a station.**
- **Setting up a benefit assessment district requires a legal foundation and very few states have instigated specific laws. The instrument is rarely used because of the necessary majority vote and level of administrative action, or, in case of mandatory assessments, because of the lack of acceptance by the concerned land owners.**
- **Nevertheless some successful assessment schemes have contributed up to 10 % of the costs of sections of urban rail schemes and public costs of rail station area renewal.**

# Location Efficient Mortgage

- To calculate differences in real estate values in relation to the proximity to a transit station and to draw credit market consequences of it, a research team, formed in spring 1996 by three non-profit organizations, began to work on this mortgage product and created the “LEM Advisor Map and Legend” as an instrument to calculate the “Location Efficiency Value (LEV)”.
- The LEV is the additional monthly rate that a home-buyer and loan borrower is able to pay for a home close to a transit station (compared to a home of the same value in a car dependent area). The LEV allows the bank to accept a higher debt-ratio for transit friendly homebuyers, than without taking the location factor into account.
- Examples exist in Seattle, Chicago, LA, San Francisco but low interest rate environment has reduced relevance.

## Some conclusions

- **Despite fundamental differences between US and European Cities: TOD experience, spirit and instruments can be relevant in our cities.**
- **While main stations are gradually all turned into business hubs and commercial centers (example: Prague – Grandi Stationi) the development potential along the stops of urban rail transport systems is often insufficiently used.**
- **TOD experience (in US and EU) may help to define the right mix of residential and commercial functions and the right densities.**
- **Priority should be given to urban transport hubs**
- **Special attention should be paid to stops along commuter rail systems. Improved rail service is a pre-condition and should trigger real estate developments.**

# Thank you

**For comments/questions: Please use my email adress**

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