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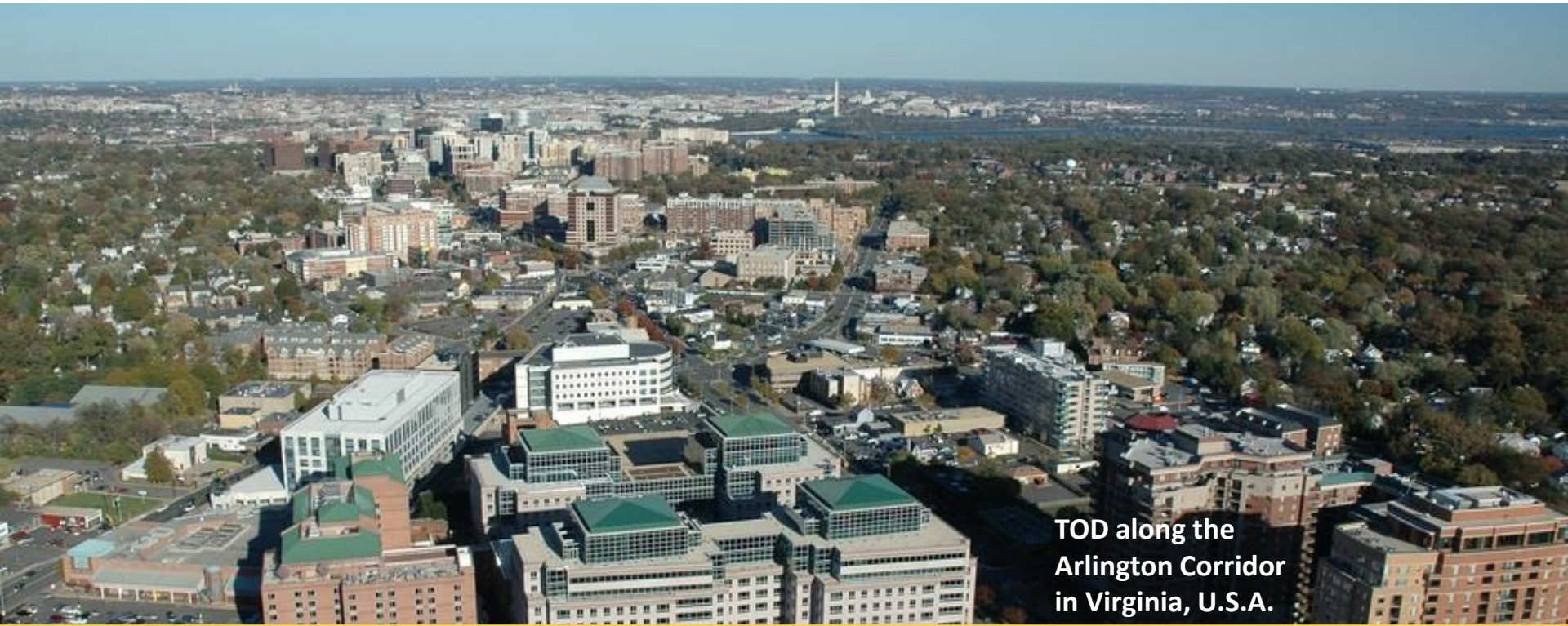
MODULE 5: INVESTING IN TOD

Transit Oriented Development at a Corridor Scale

Module Objective and Outline

- **Objective:** At the end of this module, you will understand and identify the elements of a business model for sustainable investments in TOD projects that need to come together for a corridor TOD investment
- **Outline**
 - The TOD investment
 - Business model approach for TOD
 - The business model framework
 - Investment components
 - Delivery mechanisms
 - Funding sources
 - Financial products

Financing TOD: Some Lessons Learned



TOD along the
Arlington Corridor
in Virginia, U.S.A.

- At the corridor scale, it can be difficult to structure manageable transaction sizes.
- Institutional and contractual frameworks are needed as a basis for productive commercial relationships and to guide decision-making
- It is important to unlock and capture funding sources to pay back investments, and to not purely rely on public budgets to fund infrastructure and services
- Third party finance is likely to be essential for the kind of capital-intensive, and upfront investments like TOD

TOD Investments



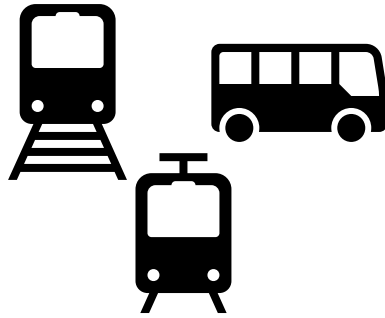
The TOD of
Fruitvale Village in
California, U.S.A.

TOD investment: the allocation of resources by public, private, and other stakeholders that are expected to generate the range of benefits associated with TOD

TOD: Types of Capital Investment

When considering financing strategies for TOD corridor development, what needs to be financed?

Transit Infrastructure



- **Investment Size: Large**
- Capital costs for BRT, LRT, or metro systems
- Often paid by public sector, but funding can be raised through capturing land value uplift and real estate improvements

Street Infrastructure & Public Realm



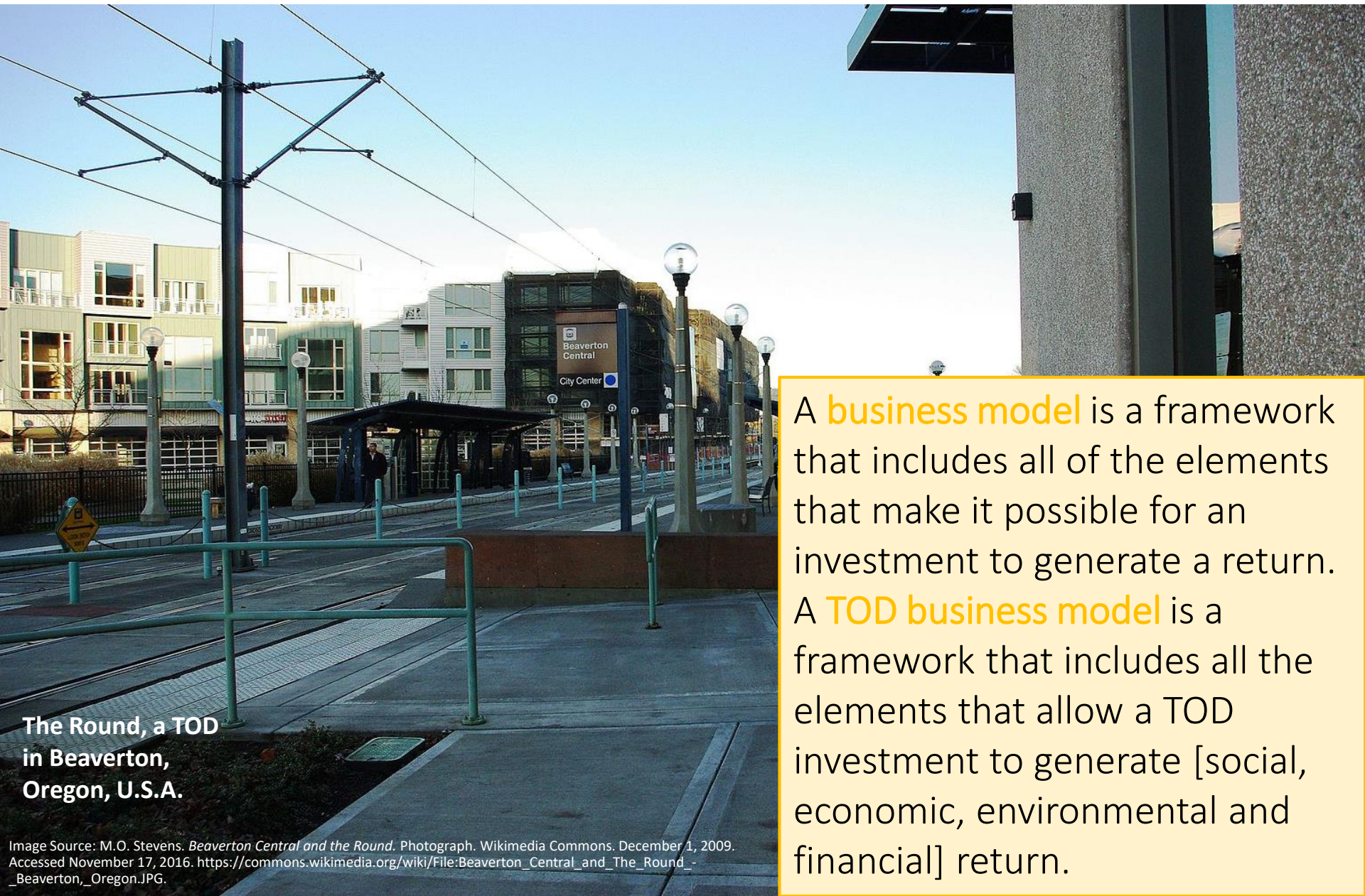
- **Investment Size: Small-Medium**
- Local street improvements & sidewalk/ NMT infrastructure
- Can be paid by developers in strong markets or by local government

Real-estate development / Housing Construction



- **Investment Size: Varies**
- Consists of construction costs of residential/commercial buildings
- Most costs to be paid by developer, but public subsidy sometimes required if weak market or affordable housing is required

A Business Model for TOD Investments



The Round, a TOD
in Beaverton,
Oregon, U.S.A.

A **business model** is a framework that includes all of the elements that make it possible for an investment to generate a return. A **TOD business model** is a framework that includes all the elements that allow a TOD investment to generate [social, economic, environmental and financial] return.

Why take a business model approach to TOD investments?

TOD business model framework can help build and create:

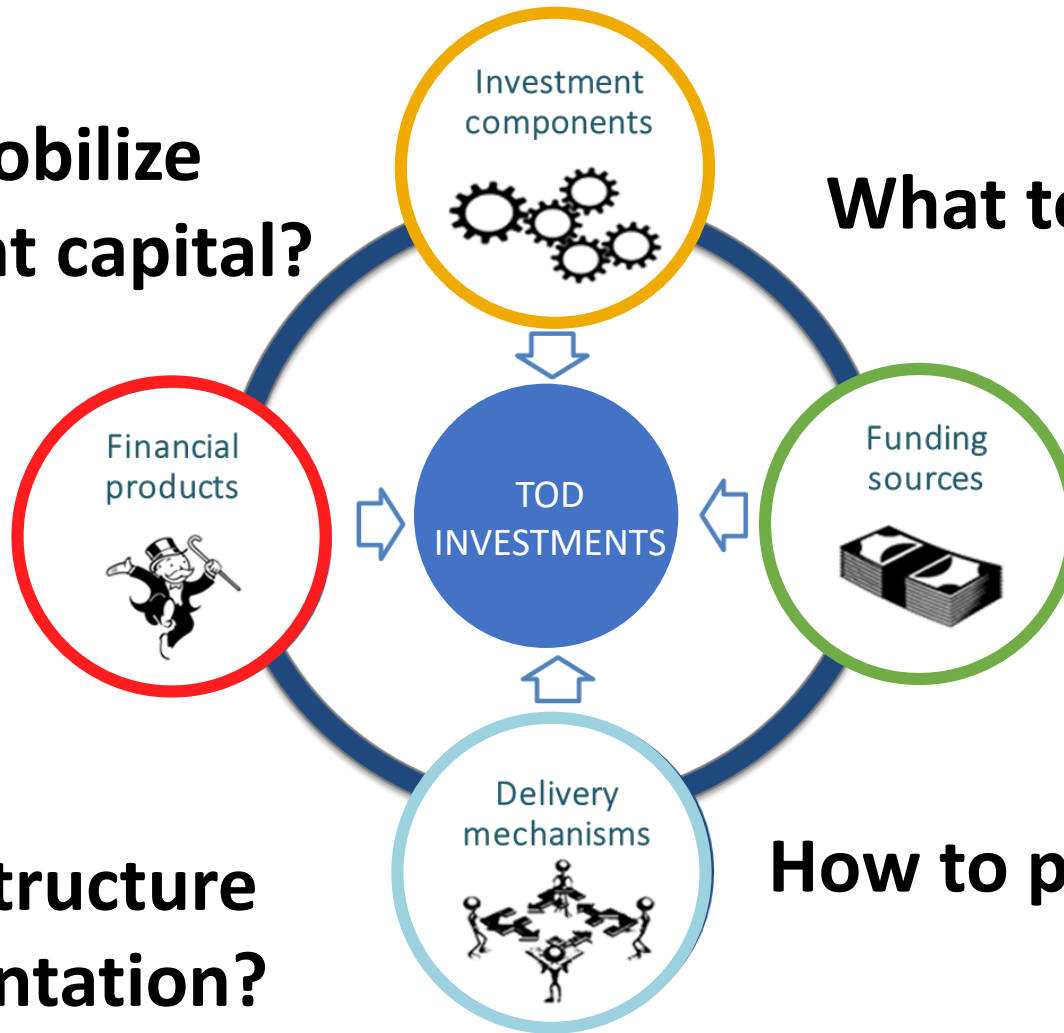
- **Capacity:** Systematic understanding of options
- **Dialogue:** Common language for stakeholder dialogue
- **Innovation:** Creation of context-specific approaches



The Business Model Framework

**How to mobilize
investment capital?**

What to invest in?

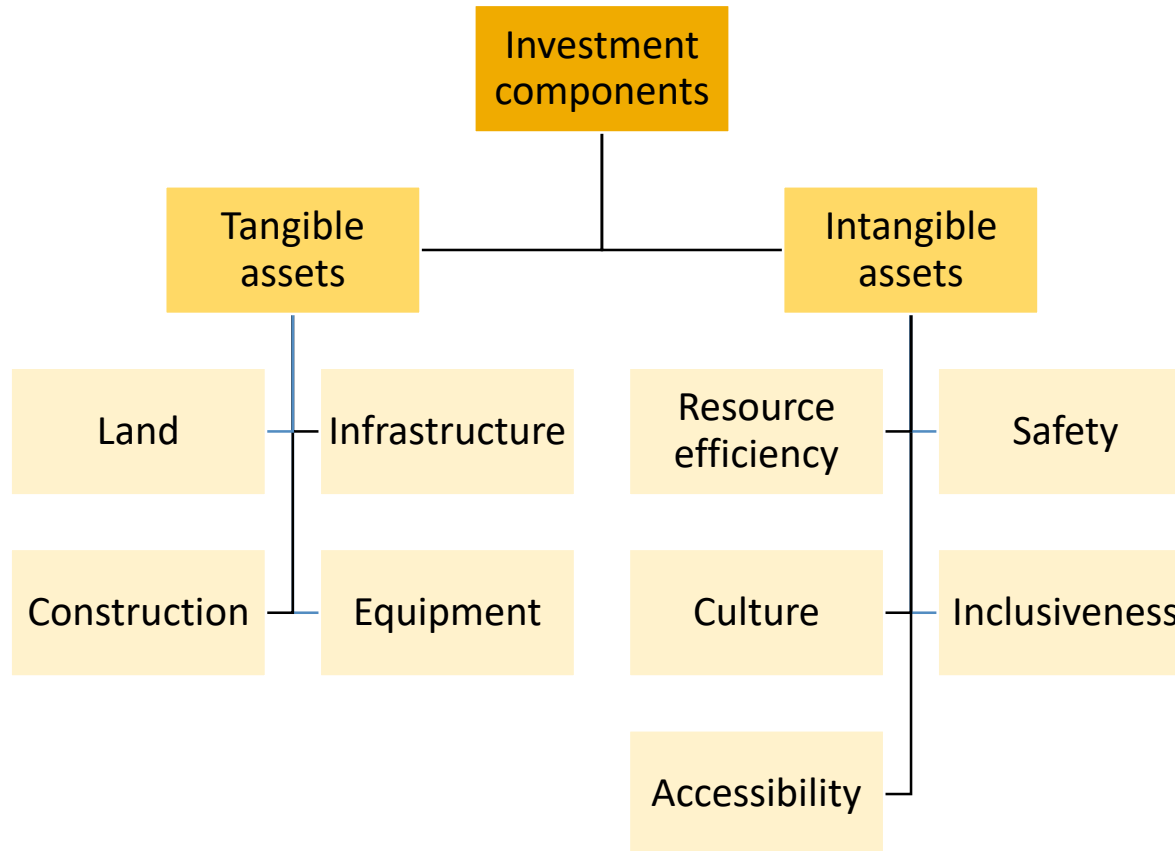


**How to structure
implementation?**

How to pay for it?

Investment Components

The various assets and processes that generate cost and revenues over the course of a TOD investment



Investment Components



Image Source: Swaminathan. *Bangkok Skyline 4*. Photograph. Flickr. August 12, 2008. Accessed November 17, 2016. <https://www.flickr.com/photos/araswami/2831379609/sizes/l/>.

Infrastructure in
Bangkok, Thailand

There are three different types of investment components:

- **Tangible assets:** material infrastructures, technology, equipment that must be manufactured, bought, built, and installed. It includes:
 - Land, horizontal infrastructures, and vertical constructions
- **Intangible assets:** non-material factors that must be part of the investment to achieve desired benefits. It includes:
 - Resource efficiency, accessibility, inclusiveness, safety, cultural preservation
- **Processes:** procedures and actions associated with planning, implementation, and maintenance

Corridor scale Investment components

Tangible assets

- Land
- Transit Track (Bus Lanes, Railways etc) and Transit stations
- Roads, street networks, pedestrians, bike lanes,
- Other TOD related investments (station plaza, bus terminal, public amenities, etc)
- Public and private buildings
- Public utilities

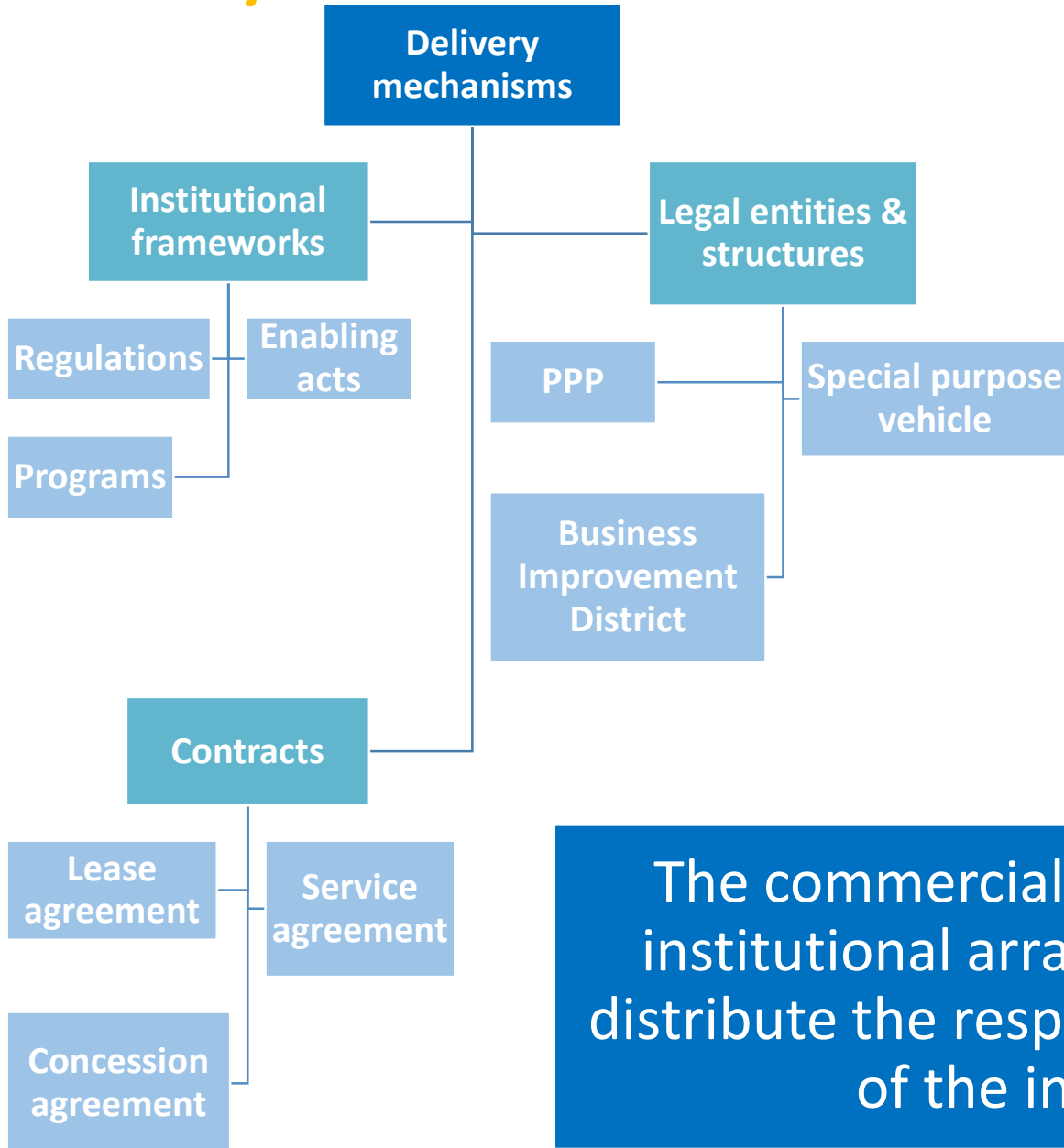
Intangible assets

- Articulated Density
- Public safety
- Walkability
- Mixed land use
- Cohesive Community
- High Quality Public places and Cultural heritage

Processes

- Feasibility studies
- Detailed engineering and investment cost estimate
- Financing arrangement
- Securing lands and site preparation
- Procurement and construction
- Monitoring and evaluation
- Operation and Maintenance
- Community engagement (all through critical stage from planning to implementation)

Delivery Mechanisms



The commercial, contractual, and institutional arrangements exist to distribute the responsibilities and risks of the investment

Delivery Mechanisms

Three types of delivery mechanisms used for a TOD investment:

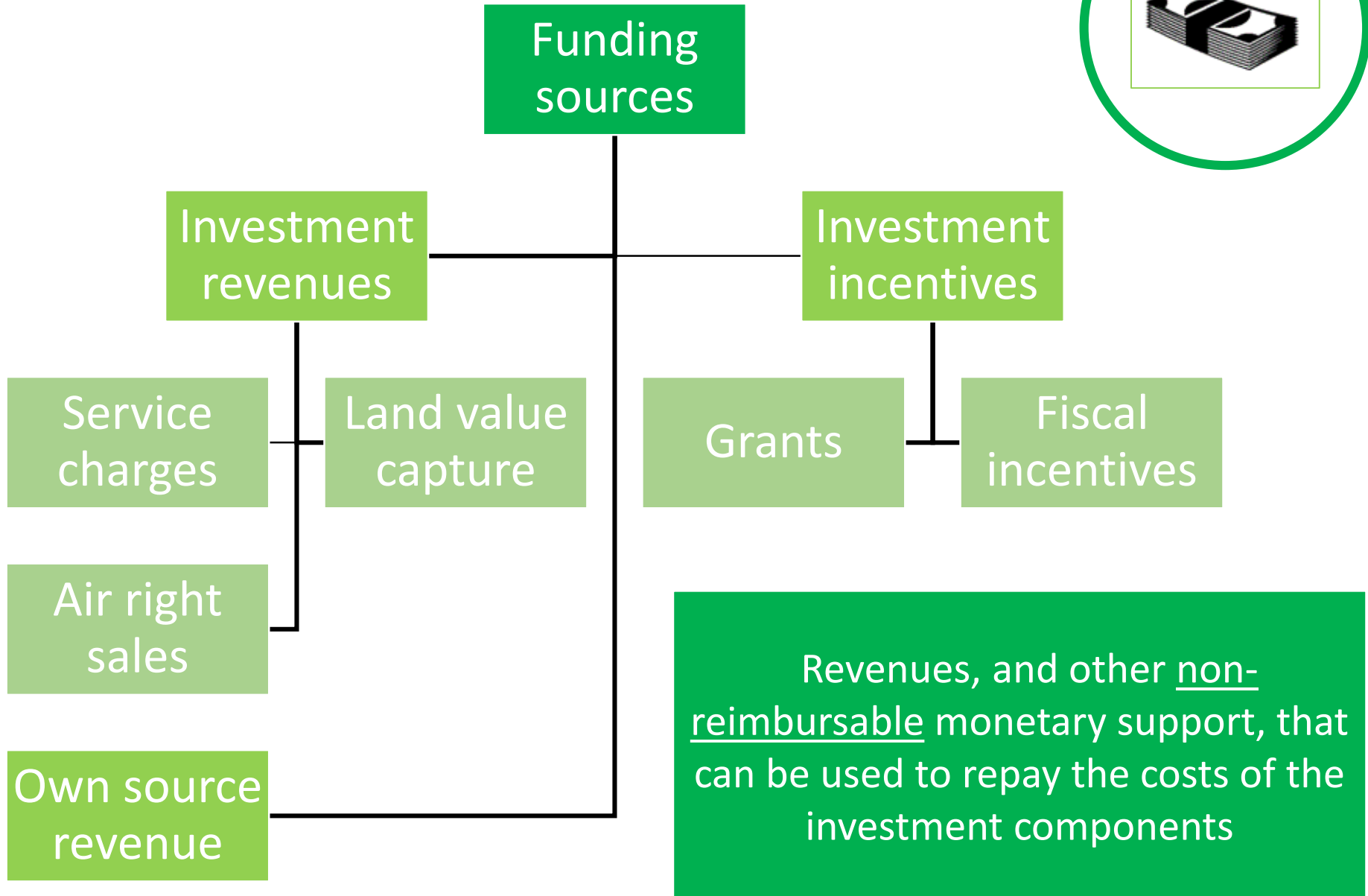
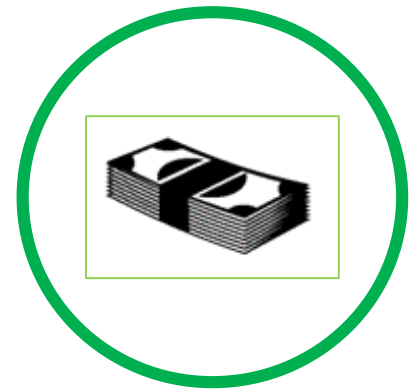
- **Contracts:** contracts that determine how the revenues and costs arising from the investment components are distributed
- **Legal entities & structures:** Legal entities dedicated to the implementation of a TOD investment
- **Institutional frameworks:** Laws and institutional arrangements that set enabling conditions for TOD investments to take place



The Pearl District, a
TOD district in
Portland, U.S.A.

Image Source: Decaseconds. *Sunset in the Pearl District*. Photograph. Flickr. August 15, 2014. Accessed November 16, 2016.
<https://www.flickr.com/photos/decaseconds/14813718908/sizes/l>.

Funding Sources



Funding sources: investment revenues



Image Source: Martha Rivero. Picture 613. Photograph, Flickr. February 12, 2010. Accessed November 18, 2016. https://www.flickr.com/photos/soy_de_cali_ve/4368640057/sizes/l

- **Investment revenues:** revenues generated by the TOD investment itself, in the form of direct payments received in return for products and services
 - Investment revenues include: **service charges, land value increments, and air right sales**
- **Service charges:** revenues obtained from charges applied to the use of transit services and from charges related to real estate assets
 - Farebox revenues
 - Real estate leasing
 - Betterment levies

Funding sources: investment revenues

Kowloon Station, Hong Kong: a TOD project where stakeholders utilized post-rail land value capture

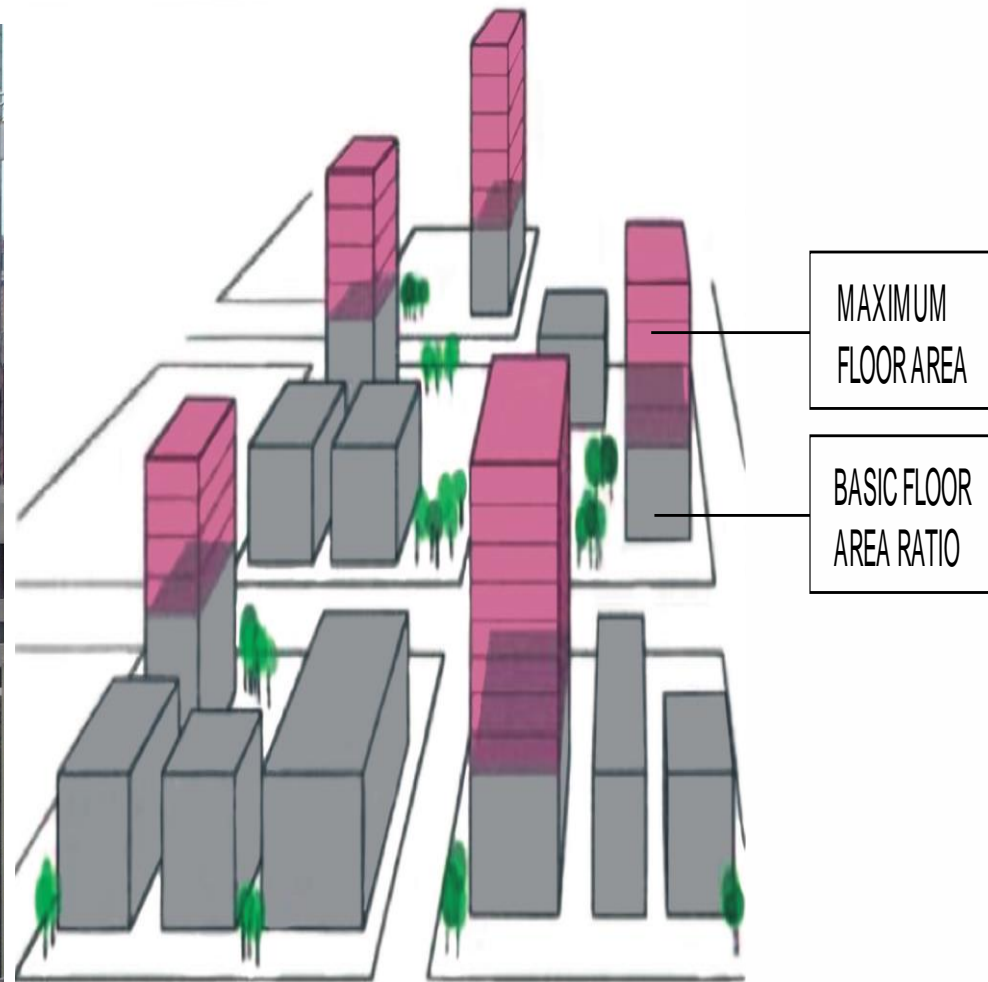


Image Source: *Buildings on Kowloon Station*. Photograph. Wikimedia Commons. May 22, 2016. Accessed November 17, 2016.
https://commons.wikimedia.org/wiki/File:Buildings_on_Kowloon_Station.jpg

Land value capture: revenues gained by capturing some of the land value created through public sector intervention (FAR increase or changes in regulations) as well as public and private sector investments (transit, TOD investments)

- Public mechanisms include: Land readjustment, urban redevelopment, land sale/lease at post-rail prices; property and land tax, special assessment tax, tax increment financing, exaction and impact fees
- Private mechanism harnesses increased land value based on preferential access to land

Funding sources: investment revenues



Source: Maleronka and Piers (2013)

Sale of air rights: transfer or sale of development rights through the auctioning of development rights. In Sao Paulo, the difference between the basic FAR and the maximum FAR is sold through auctioning. Authorities can also provide density bonuses (FAR increase beyond the zoning code) in exchange of direct payment or provision of affordable housing and public space by private developers.

Funding sources: investment incentives

NoMa District, Washington D.C.: a TOD project where tax credits were used to attract new tenants to the area



Image Source: Deep Root. *Trees of Alexan Noma West Residential, Washington, DC 2014*. Photograph. Flickr. September 30, 2014. Accessed November 16, 2016. <https://www.flickr.com/photos/deeproot/15406680065/sizes/l>.

Investment incentives: incentives intended to induce stakeholder investment for TOD projects, by reducing the overall investment, through provision of grants and/or fiscal incentives:

- **Grants:** contributions to a TOD investment in monetary or physical asset form that can be received from public or private budgets. **Public grants** play a particularly important role in TOD investment
- **Fiscal incentives:** incentives, typically given in the form of reduced tax rates , tax exemptions and differed tax, provided by governments.

Funding sources: own source contribution

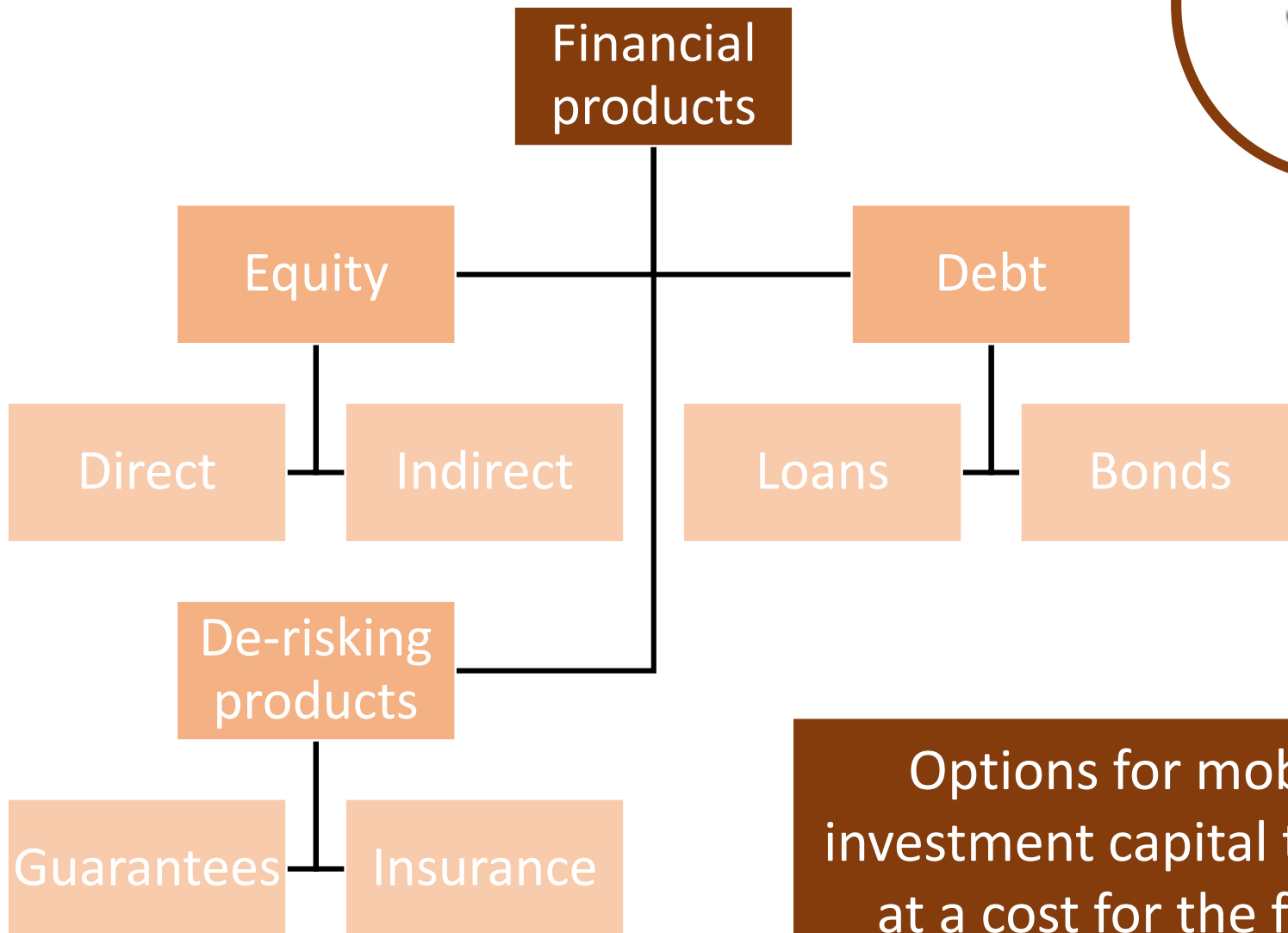


The TOD area of
Davis Square,
Massachusetts,
U.S.A.

Image Source: Steven Isaacson, Davis Square, Photograph, Flickr, June 5, 2005. Accessed November 16, 2016. <https://www.flickr.com/photos/spi/19021715/sizes/l/>.

Own source contribution: existing public or private budgets that are directly mobilized for a TOD investment.

Financial products

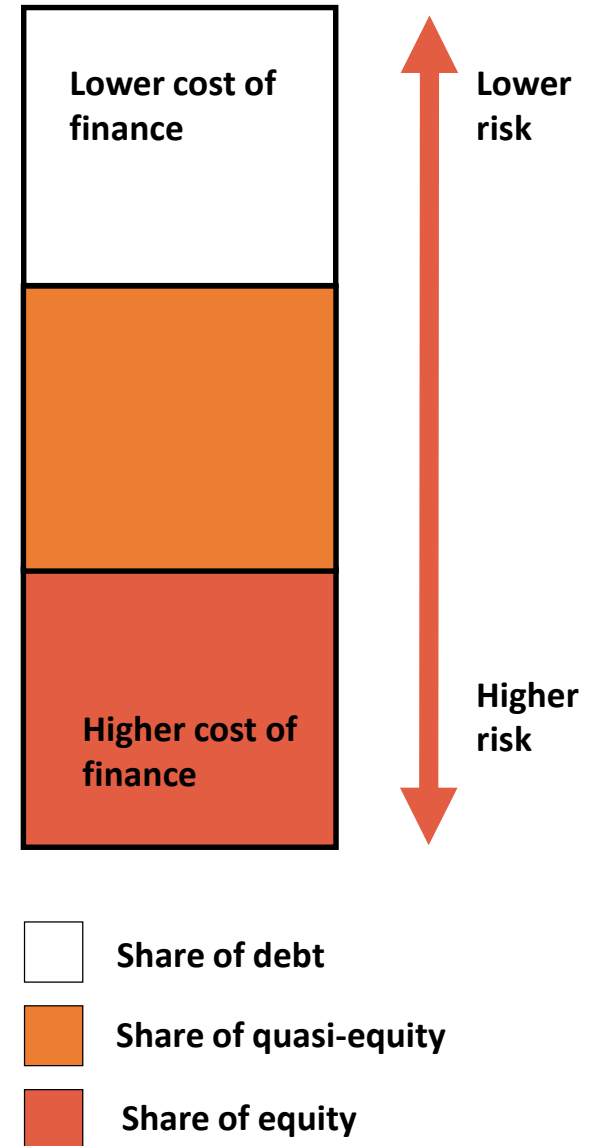


Options for mobilizing investment capital that come at a cost for the financial service provided

Financial products

- TOD investments typically require third party capital, or financial products, to achieve adequate financing
- TOD investments often combine equity and debt- this combination is known as an investment's **capital structure**
- When forming a TOD investment's capital structure, stakeholders must take into account **costs of capital**
- The higher the risk of a TOD investment, the higher the costs of capital

Capital Structure of a TOD Investment



Financial products: equity

Equity: a monetary contribution used to fund TOD investments that is obtained in return for an ownership share in the future profits of the investment

Two different types of equity exist:

- **Direct equity:** a direct investment made by equity investors in a TOD project
- **Indirect equity:** an investment made by equity investors in funds or a portfolio of projects

Loss Position

1st

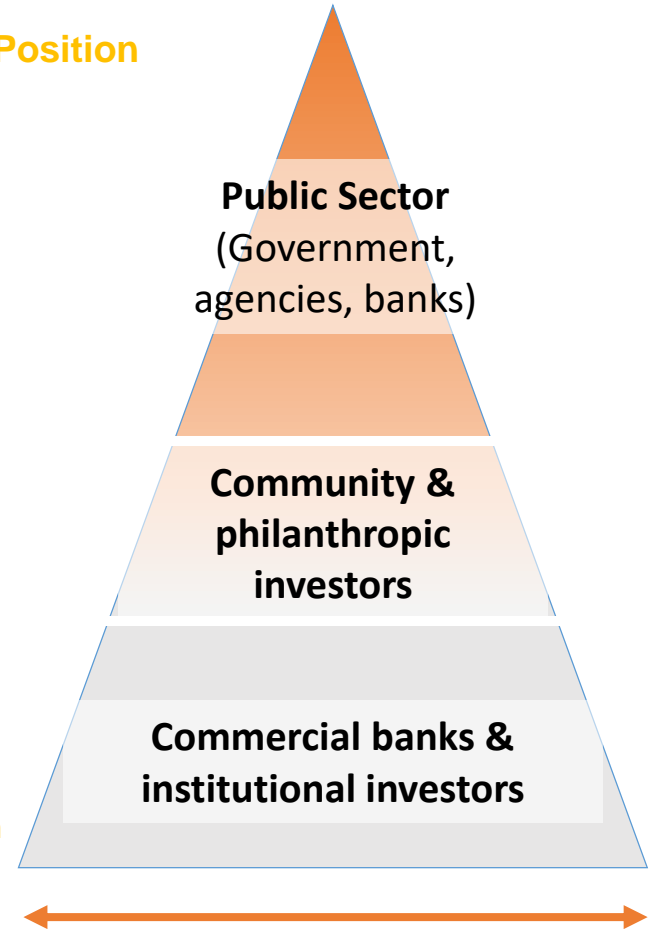
Public Sector
(Government, agencies, banks)

Community & philanthropic investors

Commercial banks & institutional investors

3th

\$ Amount of investment capital



Financial products: loans



Image Source: Steve Boland, *Denver Union Station (Night, 2014)*.
Photograph. Flickr. December 2014. Accessed November 17, 2016.
<https://www.flickr.com/photos/sf1110page/16057280996/sizes/l/>

Denver, Colorado's
redeveloped Union Station
for trains and buses

- **Loans:** monetary contributions obtained from creditors with specified conditions for repayment of the initial amount of money borrowed and interest
- TOD investments often utilize commercial and concessional loans
 - **Commercial loans:** loans provided to TOD investments with interest rates at market value; repayment required in a fixed time period
 - **Concessional loans:** loans provided to TOD investments that often have interest rates below market rate; more flexible repayment schedules allowed

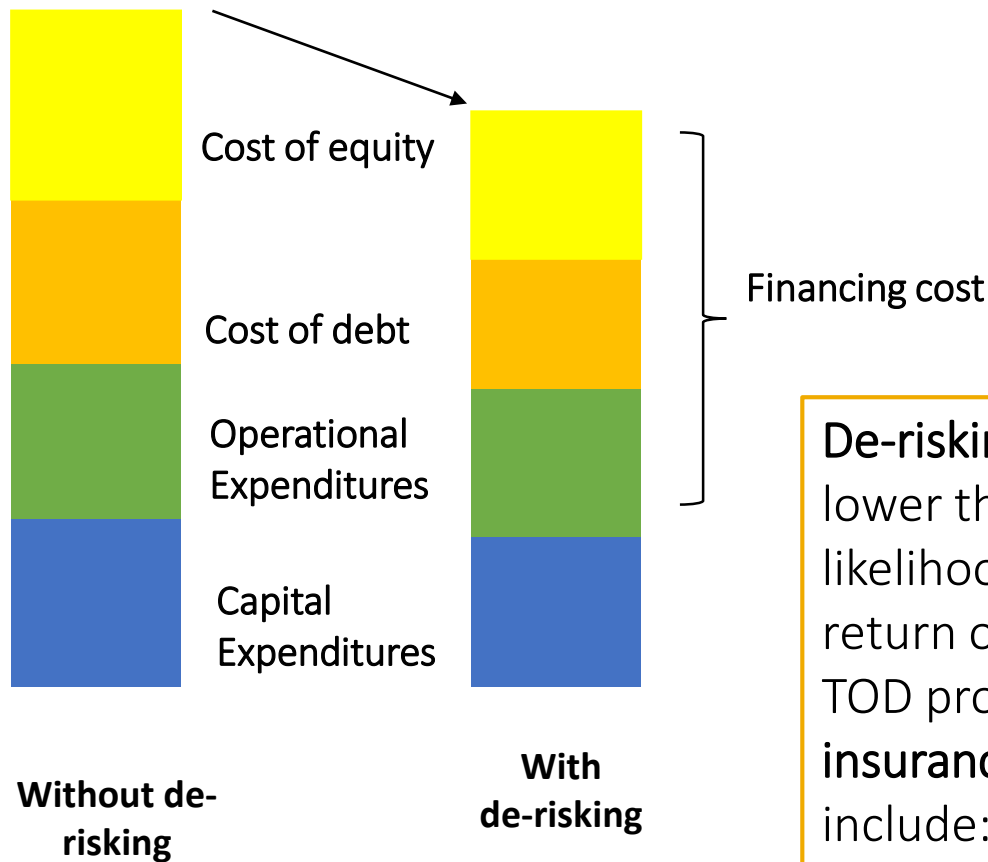
Financial products: loans

Type of loan	Concessionality	Seniority	Targeted
Commercial	None	Senior	No
Concessional	Lower interest rates/ longer maturities	Senior or junior	No
Subordinated	None	Junior	No
Syndicated	None, but larger amount of capital leveraged	Senior	No
Acquisition	Longer maturities, favorable interest rate	Senior	Higher loan to value ratio
Construction/ Bridge	No: short-term, high interest rates, backed by real assets	Senior	Yes: short-term real estate financing
Takeout	No: characteristics of mortgages	Senior	Yes: long-term real estate financing

Financial products: bonds

Type	Debt recourse	Example
General obligation bond	Full recourse to the issuer; therefore, same credit rating applies as to the issuer's other bonds.	In the USA, three counties in the state of Virginia (Arlington, Fairfax, Loudoun, and Prince William) issued a general obligation bond to support the extension of a 23-mile Metrorail between Fairfax County and Loudoun County
Revenue bond	Revenue streams from the issuer, such as taxes or user fees, provide repayment for the bond.	In the Pearl District in Portland , Oregon, tax increment finance bonds were used to finance the Central City Streetcar, backed by property taxes on land value increments
Project bond	Recourse is only to the project's assets and revenue.	In 2012, Mid-American Energy issued one of the earliest "green project bonds," a 28-year bond to specifically finance the Topaz solar project, a 550 MW solar power plant in California
Securitized bond	Recourse is to a group of financial assets that have been grouped together as collateral.	The Hawaii State Government issued a Green Bond/ asset-backed security in November 2014 for loans to install distributed solar panels, connectors, and storage

Financial products: de-risking products

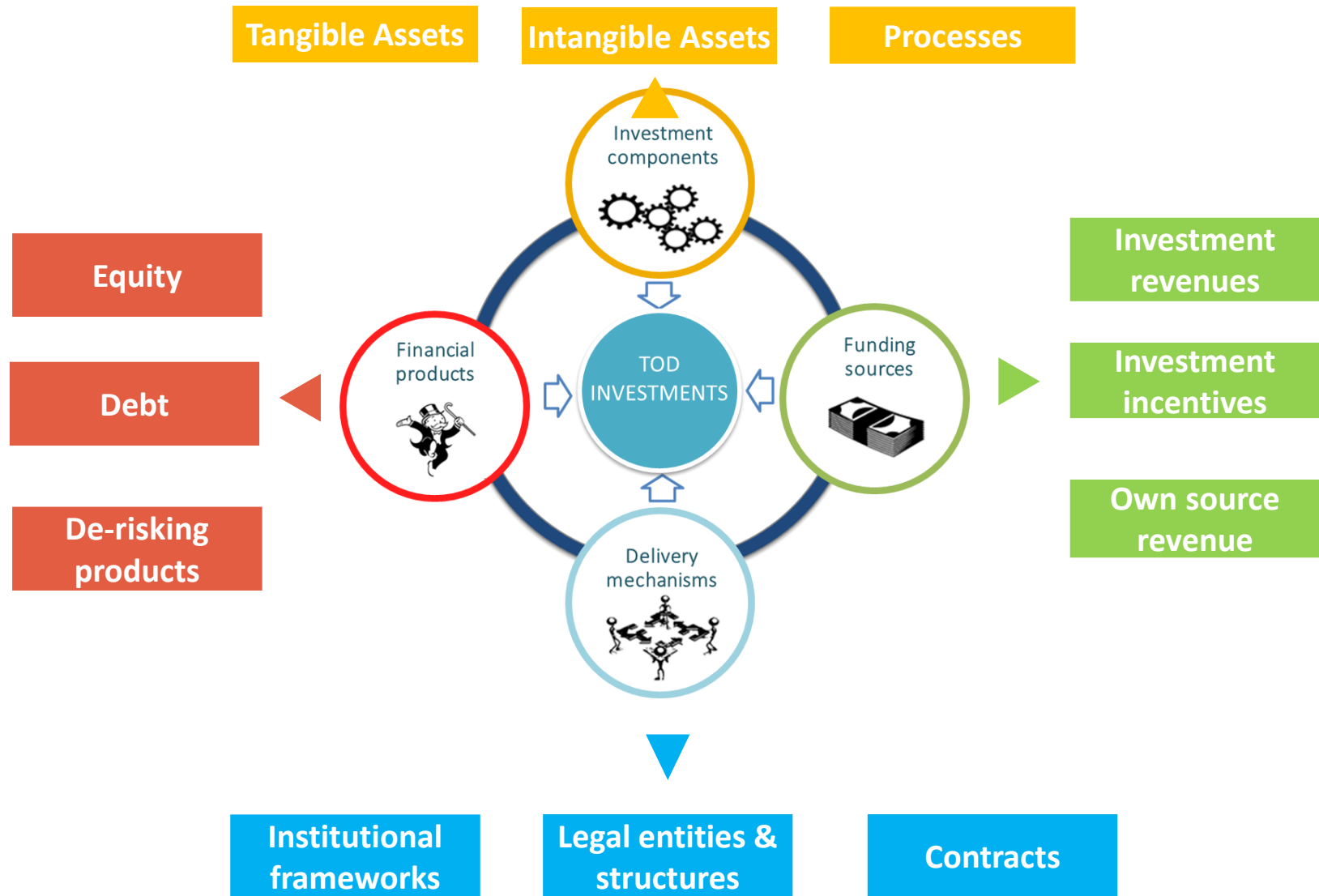


De-risking products: products designed to lower the costs of finance by reducing the likelihood that an investor will not receive a return on investment

TOD products can access **guarantees and insurance** for de-risking purposes, which include:

- Credit guarantees
- Revenue guarantees
- Political risk insurance

The business model framework: A recap



Module Quiz

1. With the construction of a new metro line, Delhi government officials hope to improve accessibility and connectivity for residents. What type of investment component are accessibility and connectivity?
 - a. Tangible assets
 - b. Intangible assets
 - c. Processes

2. Public-private partnerships can typically be categorized under what type of delivery mechanism?
 - a. Implementation vehicle
 - b. Transaction-level contract
 - c. Institutional framework

3. TOD stakeholders in Tokyo, Japan use funds gained from land value capture to finance construction of a new railway station. Under the business model framework, under what element can land value capture be categorized?
 - a. Financial products
 - b. Funding sources
 - c. Investment components
 - d. Delivery mechanisms

Module Quiz

4. At what stage of a TOD investment do stakeholders typically utilize the financial product of equity?
 - a. Implementation stage
 - b. Maintenance stage
 - c. Pre-development stage
 - d. Operation stage

5. To finance construction of transit-oriented affordable housing, TOD stakeholders in San Francisco, USA are able to access a loan with reduced interest rates and a flexible repayment schedule. What kind of loan have these TOD stakeholders utilized?
 - a. Concessional loan
 - b. Commercial loan