



INTERMODAL TERMINAL DEVELOPMENT

ÇAĞLAR TABAK

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Content

- Freight villages and developments of rail freight transport in Turkey
- General important aspects of freight villages
- Specification of the general planning principals for freight villages with the example Hasanbey
- General conclusions for the functional elements drawn from the example



Plans for Freight Villages

- TCDD's investment contents the construction of freight villages.



- Rail cargo interfaces as points of origin are more promising for establishing a successful freight villages than sites, where rail facilities have to be developed.
- The already existing railway network can push the development of the freight villages.



Effects of Rail Freight Transport Development on the Implementation of Freight Villages

- The changing industrial structure of Turkey and the increasing foreign trade volume favour the container transport which is the most suitable method for combined transport.
- The rapid increase of demand offers opportunities for the development of freight villages.
- The market sector of container transport, being the priority of the private sector, may create a high competition.
- Apart from the tendency to container transport general cargo and bulk goods will still play an important role in the years to come. Therefore freight villages should provide appropriate facilities.



Functions of Freight Villages

- Integrating different modes of transport (at least rail and road, preferable sea also)
- Providing transfer facilities (convenient cargo handling by shifting containers or goods from one mode to another)
- Serving as interfaces between long-distance freight transport and regional or urban delivery of goods
- Integrating different freight and logistic companies



Characteristics of Freight Villages

- A freight village is served by a multiplicity of transport modes
- Activities relating to transport, logistics, distribution of goods are carried out
- National and international transit
- Various operators for transport, logistics, distribution
- Free access to all facilities needed for transport, logistics, distribution of goods
- Public services for staff
- Establishing a model for operating the freight village



Logistic Centres

- The term 'logistic centre' can have different meanings.
- It generally describes a site specially organised for carrying out logistics activities:
- A logistic centre can be a freight village.
- Logistic centre can describe a site where general cargo is transhipped and services like weighting and payment of duty are offered.
- A logistic centre can be a big warehouse from which transshipments to the whole country or even the whole world are carried out.



Advantages of Freight Villages

- Improved conditions to forward long-distance consignments by train or ship
- Potential to increase ratio of freight transport by train
- Potential to increase efficiency of train transports through concentration of transports on one spot
- Potential to push the economic development of the region
- Potential to increase the return of investment through establishment of auxiliary facilities and their efficient utilization



Operating models for Freight Villages

	Public Operator	Public Private Partnership	Private Operator
Carrier of Risk	The authorities	Distribution of risk according to agreement	Investor
Realisation of objectives concerning traffic / land use planning	Best possible influence	By monitoring	Low influence
Influence on the choice of companies to locate in the freight village	Distinctive influence	Medium influence	Low influence
Monitoring of utilization of subsidies	Direct influence	Board of directors, surveillance and audits	Low influence



Advantages for the Government

- Potential to concentrate freight traffic to railways
 - Less external diseconomies caused by pollution
- Potential to exonerate roads from freight traffic
 - Less road maintenance
- Potential to push the economic development of the region
 - Higher tax revenues
- Potential to put land into economic use
 - Revenues from land lease



Advantages for private operators

- Dedicated logistics facilities meeting their requirements
 - Lower costs for logistics processes
 - Increased flexibility
- Powerful Hinterland connection
 - Secures competitive advantages
- Railway access
 - Cheap and reliable transports



Advantages for Investors

- Introduction of container transportation facilities
 - High demand for container logistics
 - Meeting market's requirements over decades
- Financing of logistics facilities
 - Revenues generated by financial and/or operating leasing
 - Participation in a pilot scheme
- Infrastructure financing
 - Potential for public private partnerships

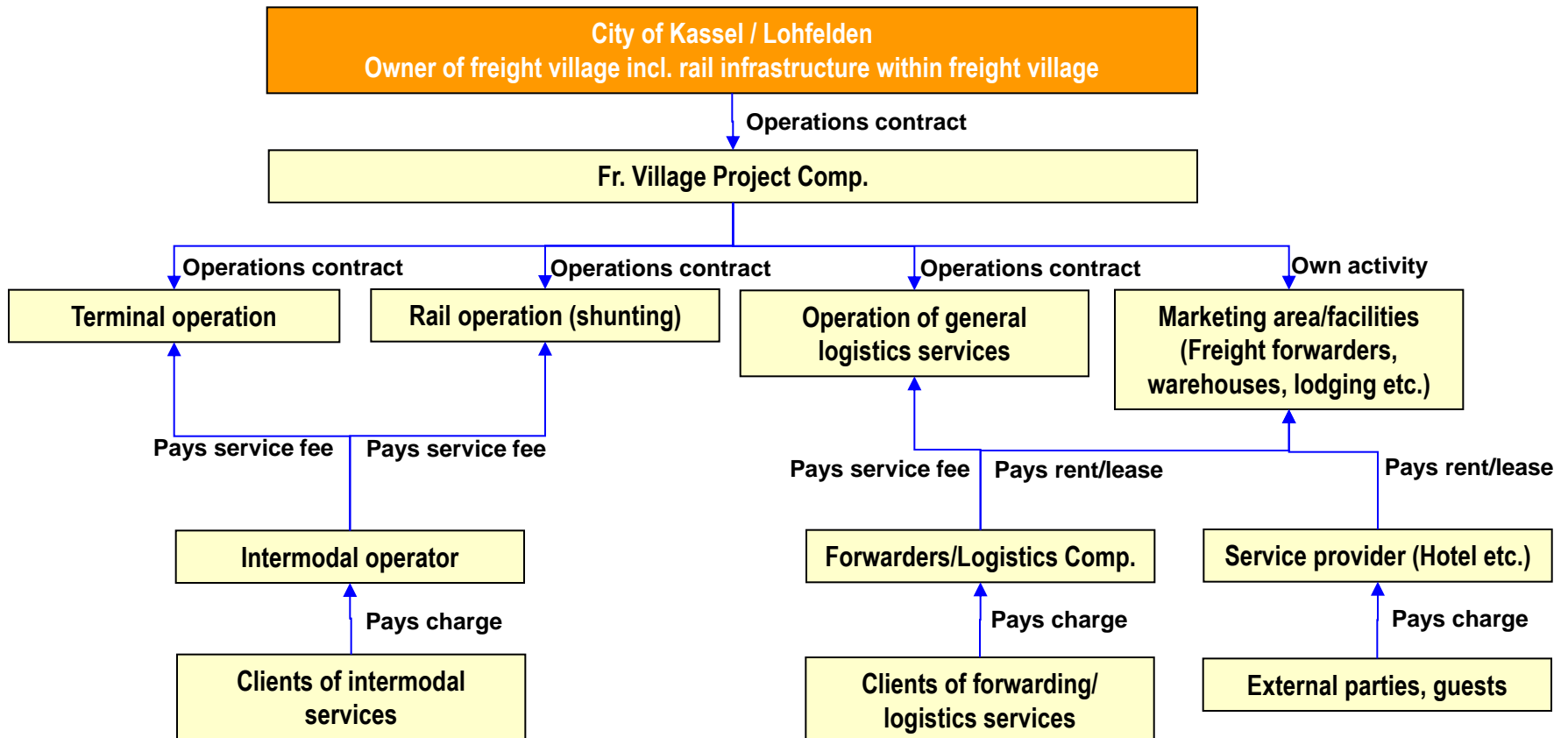


Operating models for Freight Villages

Service	Infrastructure	Owner	Operator	Financier
Provision of rail access	Rail Tracks	TCDD Infrastructure	Infrastructure Manager	Government
Provision of transshipment	Transshipment Terminal	TCDD Infrastructure	Terminal Manager	Government
General logistics services	Freight Village General Area	Freight Village Manager	Freight Village Manager	Government/ Investor
Freight forwarding	Freight Village Forwarding Area	Freight Forwarder	Freight Forwarder	Freight Forwarder/ Investor
Warehousing	Warehouses	Warehousing Company	Warehousing Company	Warehousing Comp./ Investor
Board and lodging	Hotel/Restaurant	Franchising Companies	Franchisee	Franchisee/ Investor
Administration	Administrative & Social Facilities	Freight Village Manager	Freight Village Manager	Government
Representation	Client's offices	Freight Village Manager	Clients	Government/ Investor



Example: Financial and Organisation Concept: Kassel





Results of the Financial Construction

- Free and non-discriminatory access to the Terminal
- Costs for Installations, Infrastructure and Operations are covered
- Charges and salaries depend on the transhipped volume
- Fair competition between all parties is possible
- State subsidies for construction and planning is possible



Strategic Location of Freight Villages – Local

- Close to industrial activities with significant volume of goods to be transported over long distances and suitable for transport by railway
- Enough space for transshipments and logistics activities under consideration of the freight village's future development in stages
- Remote from settlements to ensure a low conflict potential (e.g. residents)



Strategic Location of Freight Villages – Regional / National / International

- Location along important traffic flows from or to regional / national / international destinations
- Situated at major railway connections
- Close to the main road-network
- Connections to harbours with the help of the railway / road network
- Sufficient capacity on all modes of transport



Criteria for the Layout of a Freight Village

- The container area serves for loading and storing of containers and is a core element of the freight village. The quick and safe movement of containers is a main aspect when developing freight villages.
- An essential element of freight villages are flexible areas allowing third parties to establish cargo movement facilities according to market needs such as forwarding facilities.
- General services facilities allow for lean operations and higher efficiency and can stimulate the overall development of a freight village.



Criteria for the Layout of a Freight Village

- All facilities serving for transport, logistics or distribution of goods should possibly dispose of an independent access for all relevant modes of transport.
- Transport infrastructure layout enabling uninterrupted traffic flows and minimal shunting movements.
- Sufficient space for parking for waiting trucks and for employees' cars are to be provided at all freight village facilities.

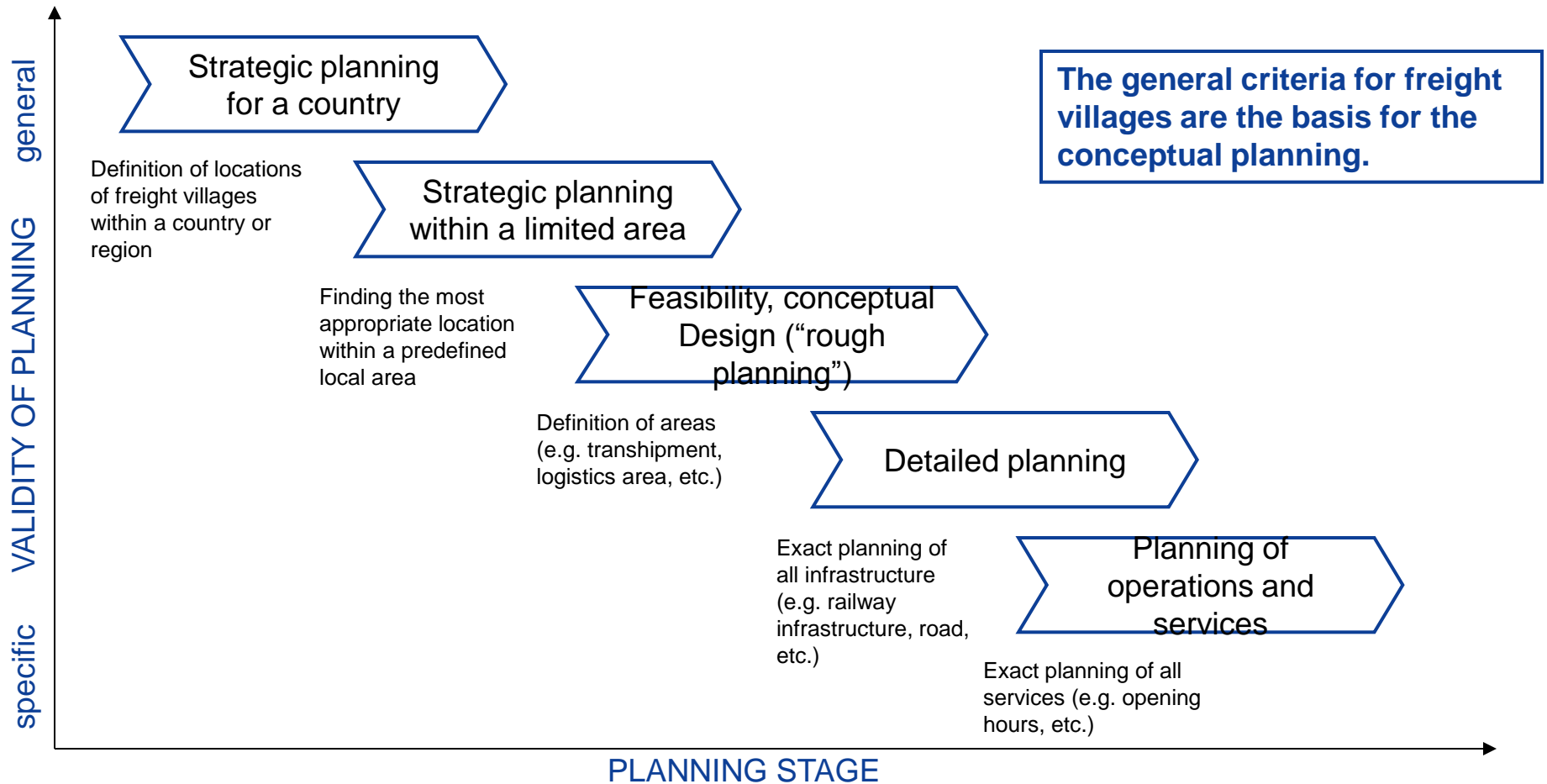


Criteria for the Layout of a Freight Village

- Protection of goods and processes handled in the freight village can be ensured by establishing a controlled area.
- The location of facilities in the freight village should be chosen in accordance with the need for public access.
- Step-by-step development according to demand.
- Sufficient space must be calculated for to allow future development of facilities.
- Separation of utilizations with conflict potential, e.g. bulk goods emitting dust.



Typical Planning Process





Strategic Location of Hasanbey – Local





Strategic Location of Hasanbey – Local

- ✓ Situated at existing rail corridor
- ✓ Short distance to main road network
- ✓ Large industrial area in close proximity with expansion potentials
- ✓ Main city nearby, but situated outside of build up area
- ✓ Site offers necessary capacity development possibilities
 - ➔ Excellent local access conditions, local transport volume potentials and growth possibilities

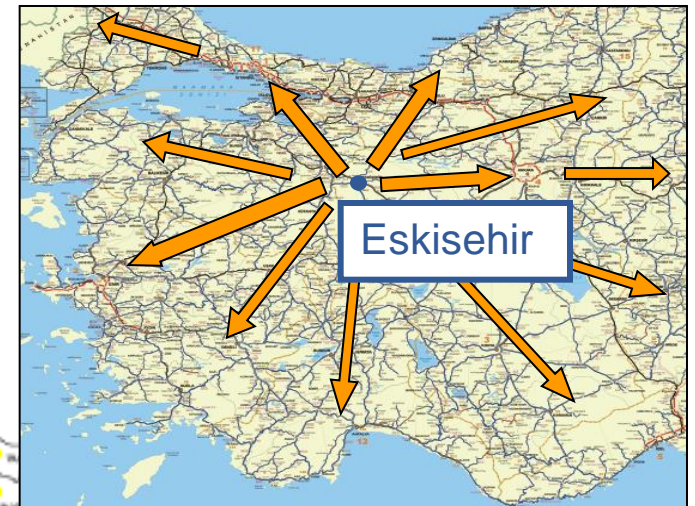
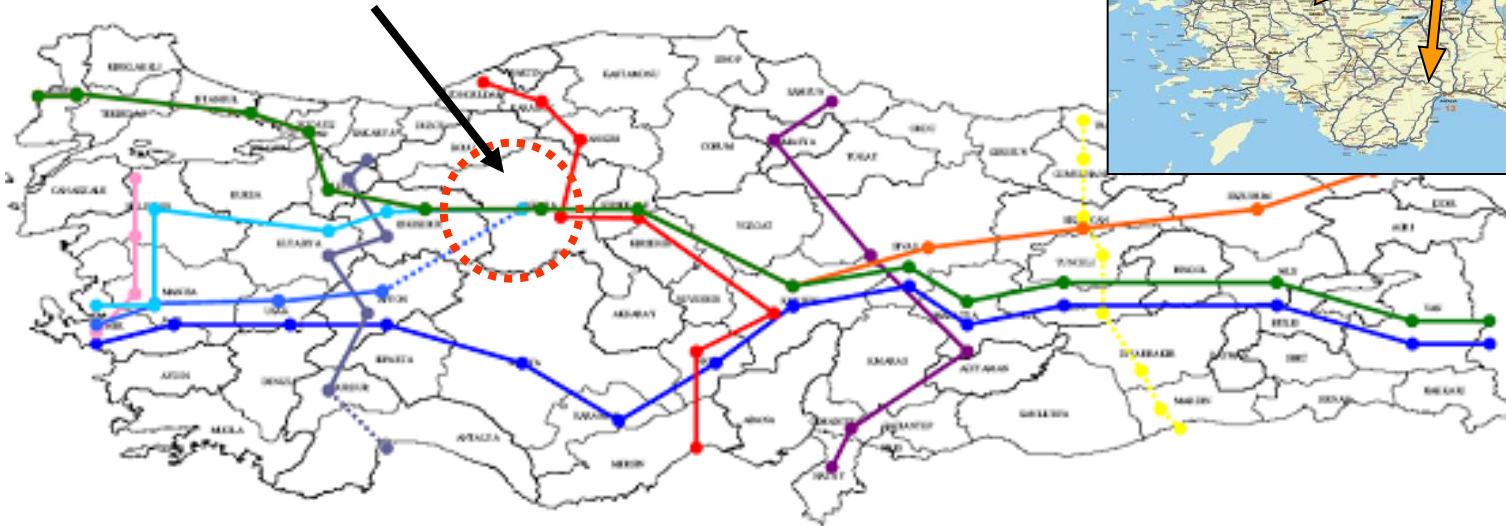


Strategic Location of Hasanbey – Regional / National / International

Main Transport Corridors

(Transport Master Plan Strategy – Istanbul Technical University)

Regional Catchment Area of Hasanbey Freight Village





Strategic Location of Hasanbey – Regional / National / International

- ✓ Substantial regional catchment area
 - ✓ Central location on main east-west rail corridor between Istanbul and Ankara
 - ✓ Advantageous location for connecting major national and international (rail) freight volume flows
- ➔ High-rate potentials for developing a trend-setting freight village with significant freight volumes



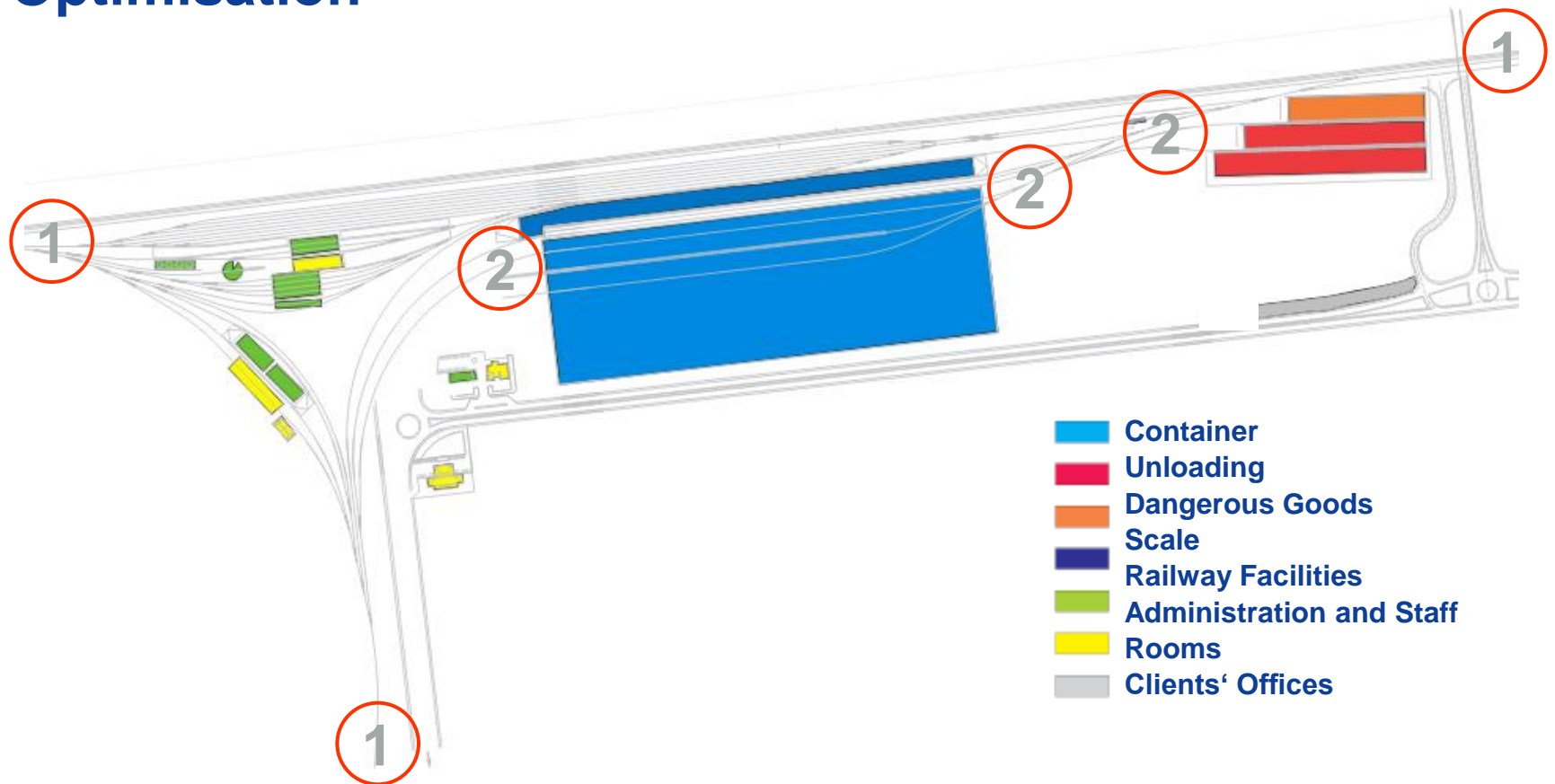
Conceptual Design of Hasanbey



- Container
- Unloading
- Dangerous Goods
- Scale
- Railway Facilities
- Administration and Staff
- Rooms
- Clients' Offices



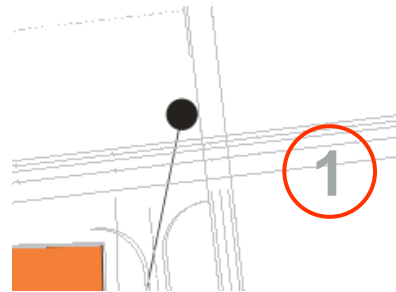
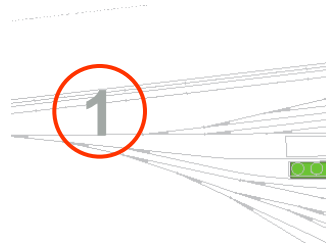
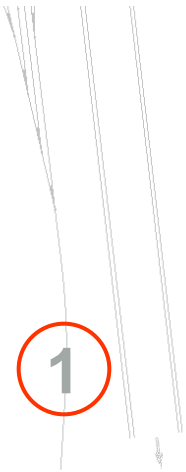
Conceptual Design of Hasanbey – Proposals for Optimisation





Conceptual Design of Hasanbey – Proposals for Optimisation

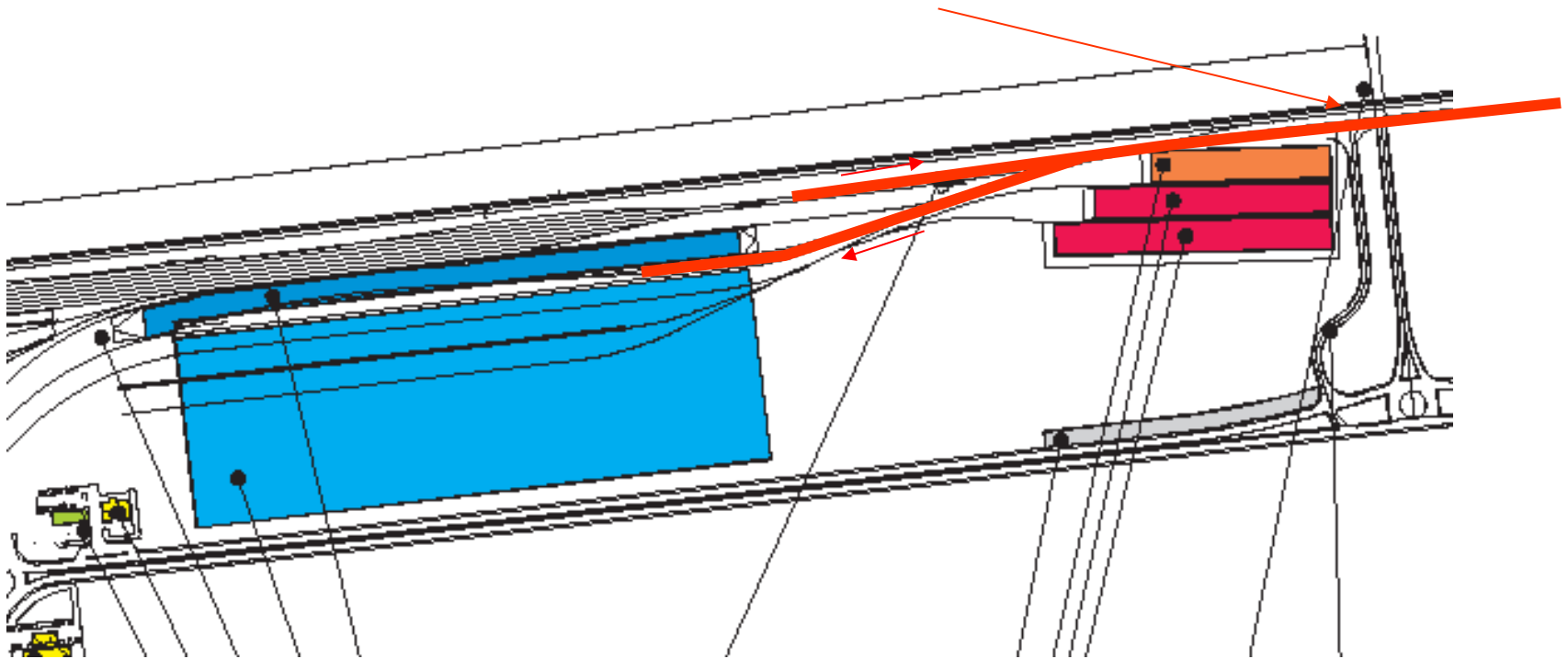
Length of Extension Tracks / Connection of Loading Tracks to Shunting Area





Conceptual Design – Proposals for Process Optimisation

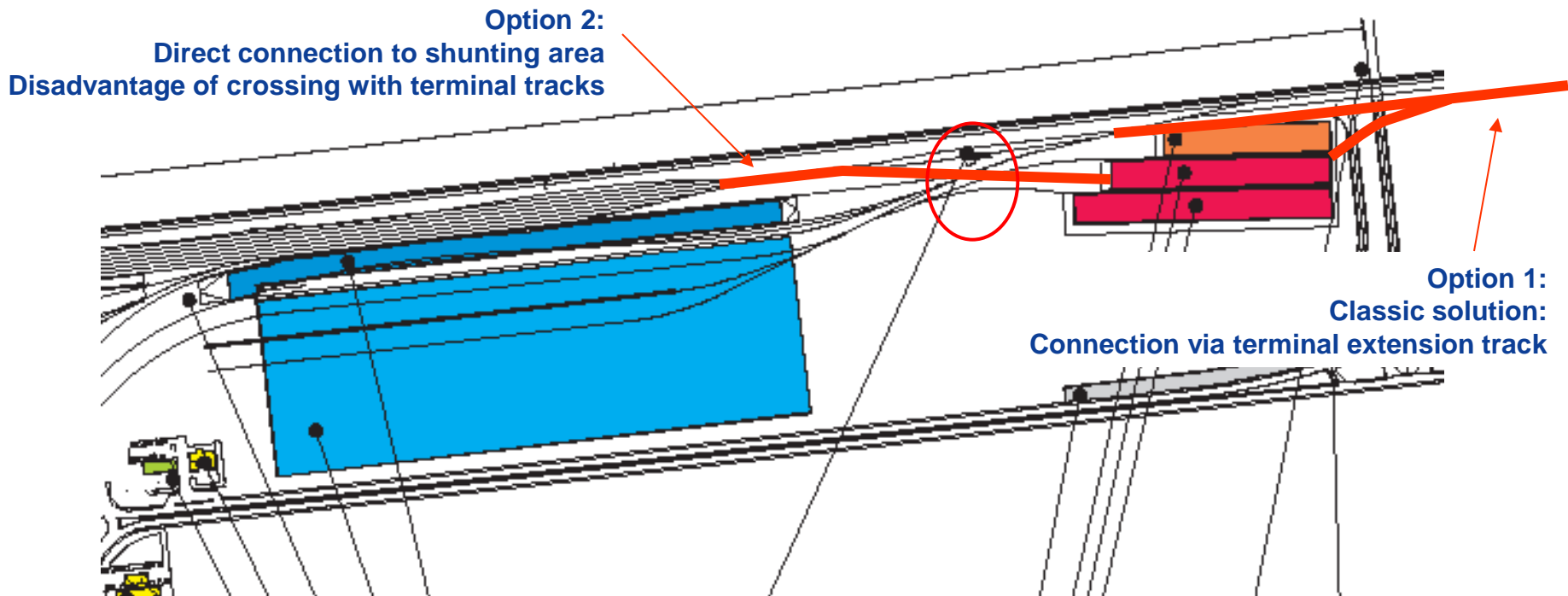
Priority: Extension Track With Train Length for Terminal Entry





Conceptual Design – Proposals for Process Optimisation

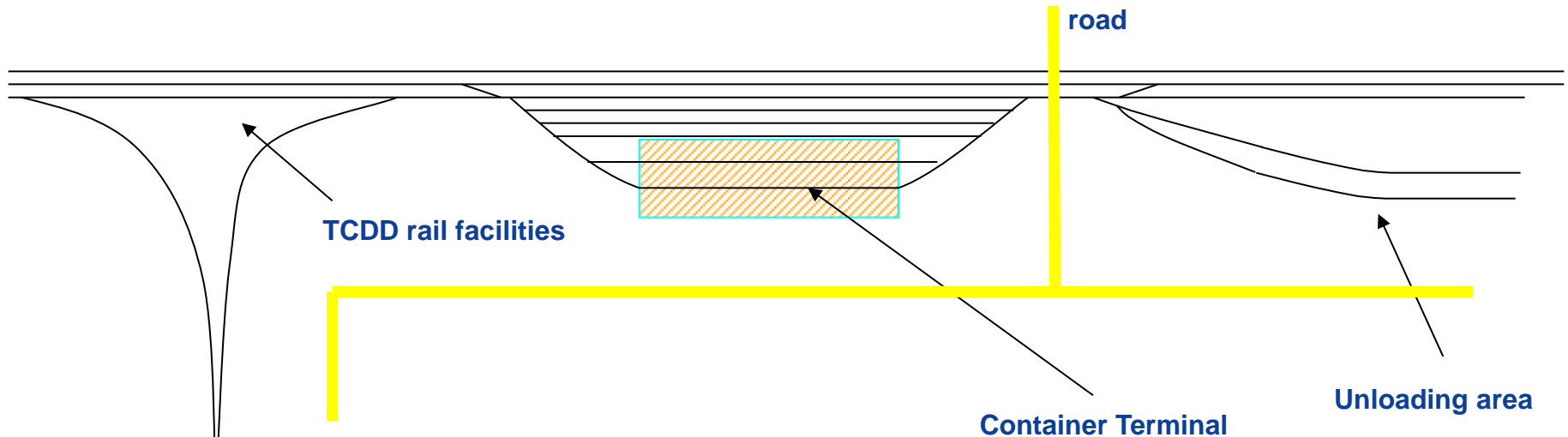
Further Measures: Connection of Loading Tracks to Shunting Area





Conceptual Design – Proposals for Layout Optimisation

Example for Improved Link-up of Container Area and Unloading Area



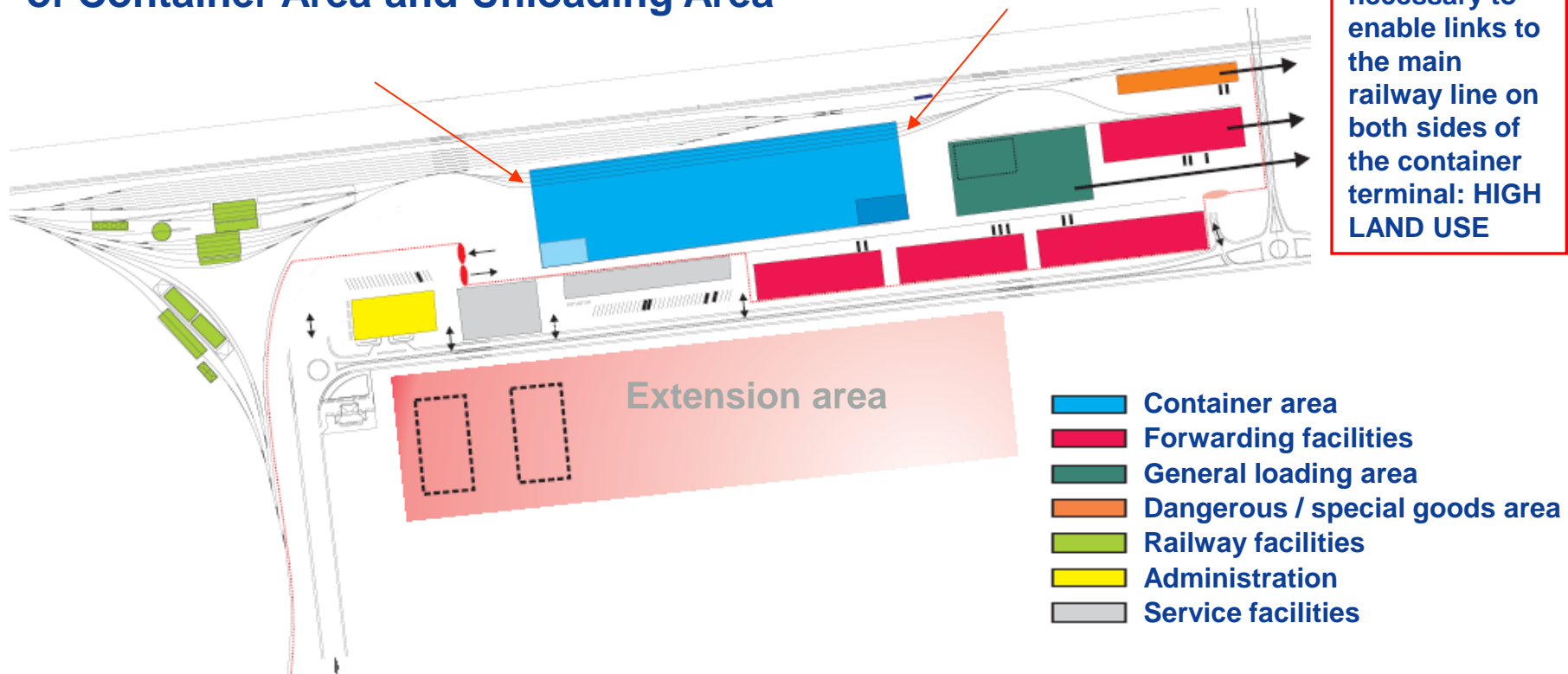
Advantages:

- Shunting can be done by main line locomotives
- Same capacity in the terminal requires fewer tracks
- Modular expansion possible
- Reduced crossing of road and rail



Functional Design – Feasible Layout A for Hasanbey

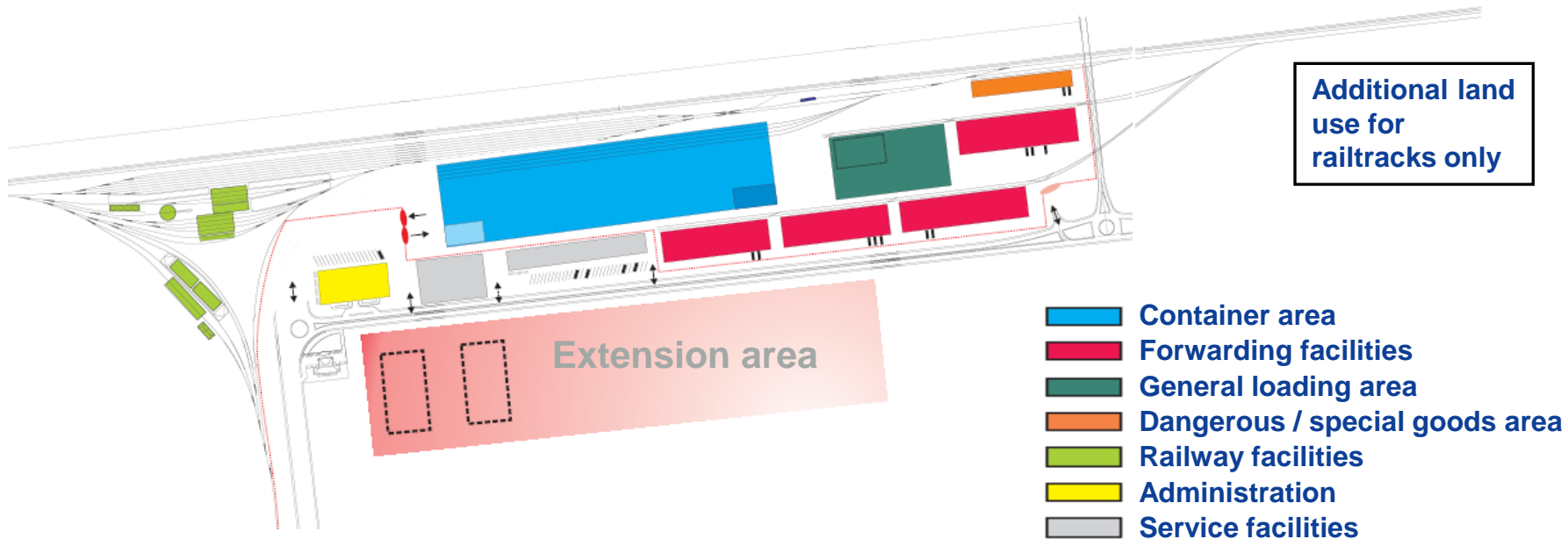
Optimised Operating Conditions through Improved Link-up of Container Area and Unloading Area





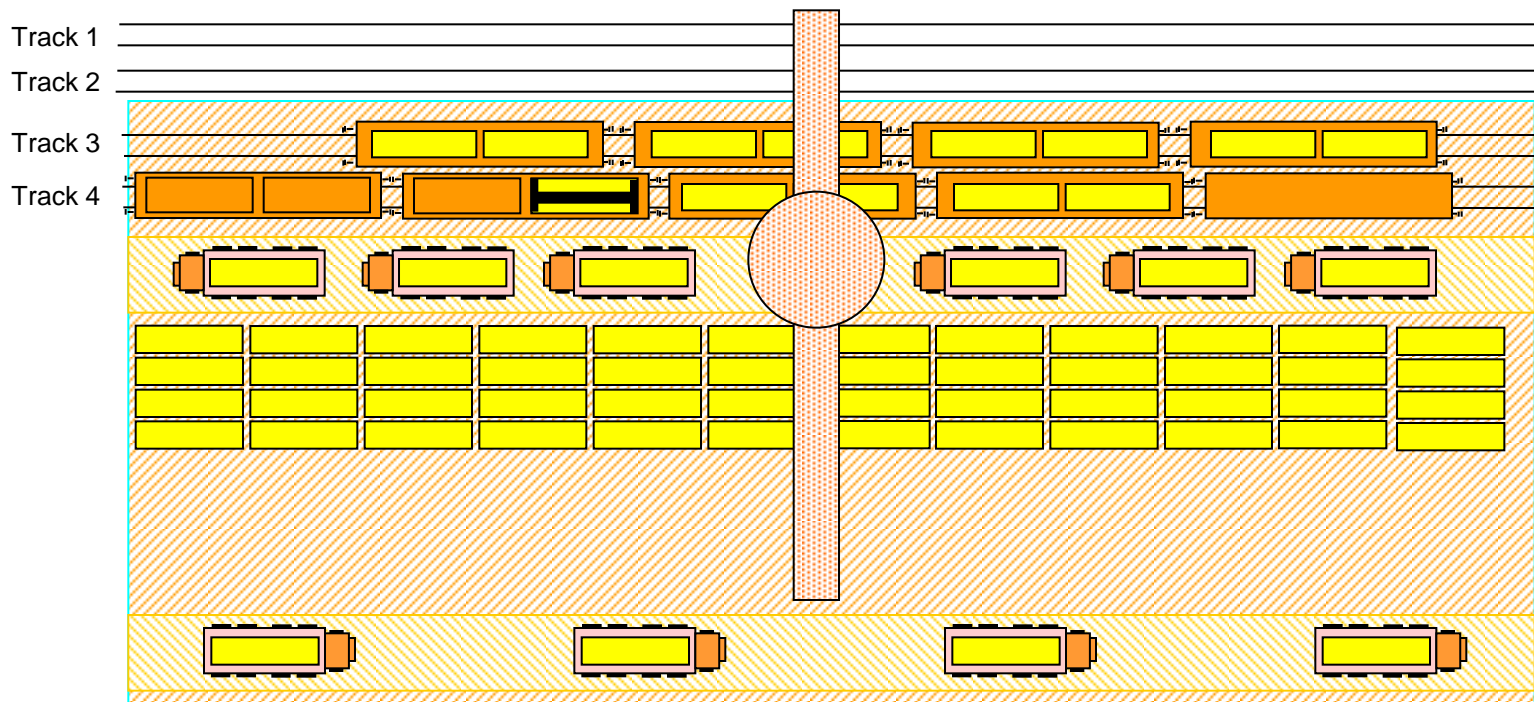
Functional Design – Feasible Layout B for Hasanbey

Good Operating Conditions through Extension Tracks and Optimisation of Land Use



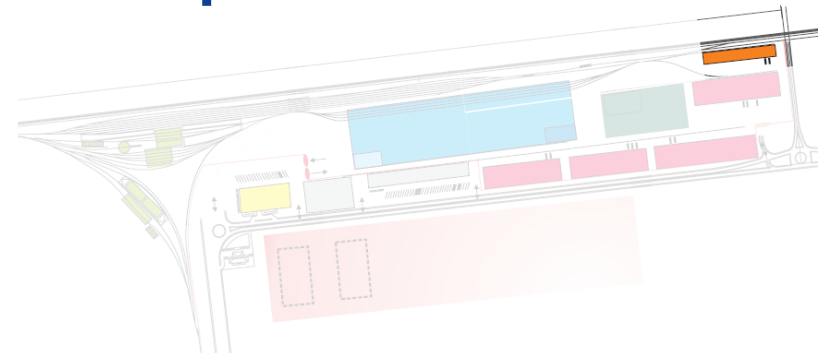


Functional Elements – Container Terminal Suggested Layout (long term high capacity)



Functional Elements – Dangerous / Special Goods Area

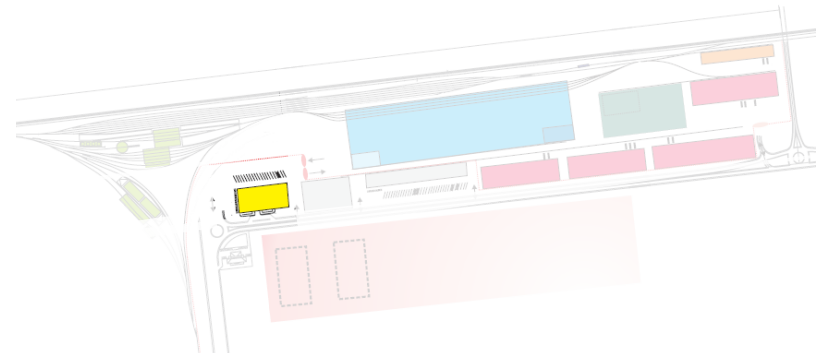
- Forwarding facilities with direct rail access
- Forwarding facilities may include truck-docking-points and indoor administrative facilities, storage and handling areas
- Facilities generally operated by railway operator or specialised forwarding agent
- Development in accordance with market requirements





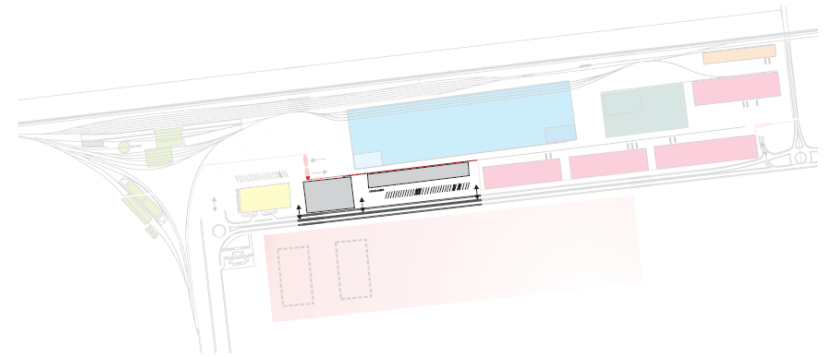
Functional Elements – Administrative / Social Facilities

- Main access point
- Freight village administration, clients offices
- Additional upgrading services like customs services, trade areas, reception, ...
- Facilities operated by TCDD / freight village development company
- Temporary facilities during initial stage of development advisable



Functional Elements – General Service Facilities

- Additional facilities for road feeder like petrol station, truck wash, truck repair
- Services like hotel, restaurant, sanitary facilities for truck drivers, employees, ...
- Public access advisable in order to achieve added benefits
- Facilities run by a specialised operator
- Realisation in accordance with traffic volumes and / or strategic objectives





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