

5.22 Yen Vien (V1) Station Area

5.22.1 Development Character

a) Existing Condition and Issues

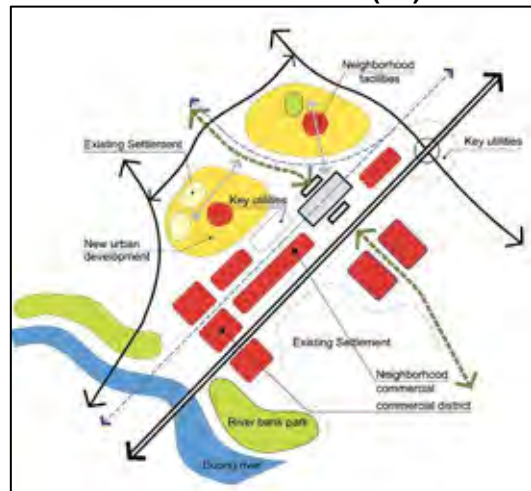
5235 Yen Vien Station is the end-point of Phase 1 of Line 1. Yen Vien is isolated from urban center of Long Bien District because of Duong River. Most of the land use is agricultural, except for residential area east side of railway along Ha Huy Tap Street. Few public and commercial facilities are not existed in this area. At the edge of residential area, there are clusters of mechanical factories. Along the railway, railway-related agencies and facilities of VNR are existed. There are rural villages and settlements inside of agricultural land west side of railway. There is a potential to develop urban settlement areas west of the railway, with necessary urban commercial service facilities around the station.

5236 An arterial road is only NH-1 (Ha Huy Tap Street), and many buses and trucks passing through. But there are no signals and pedestrian crossing. Students use bicycles and buses to go to school, so it is necessary to improve transport condition of NH-1 around the bus stops. In addition, there are only collector roads and alleys in residential area, so the collector road to access to NH-1 and UMRT station need to be developed.

b) Development Objectives

5237 Yen Vien station and its station area is expected to play an important role in formulating one of Urban Sub-centers in the eastern part of Hanoi suburban area utilizing factory, existing villages and agricultural lands in adjacent area of the station for strengthening socio-economic capacity.

Figure 5.22.1 Conceptual Diagram for Yen Vien Station Area (V1)



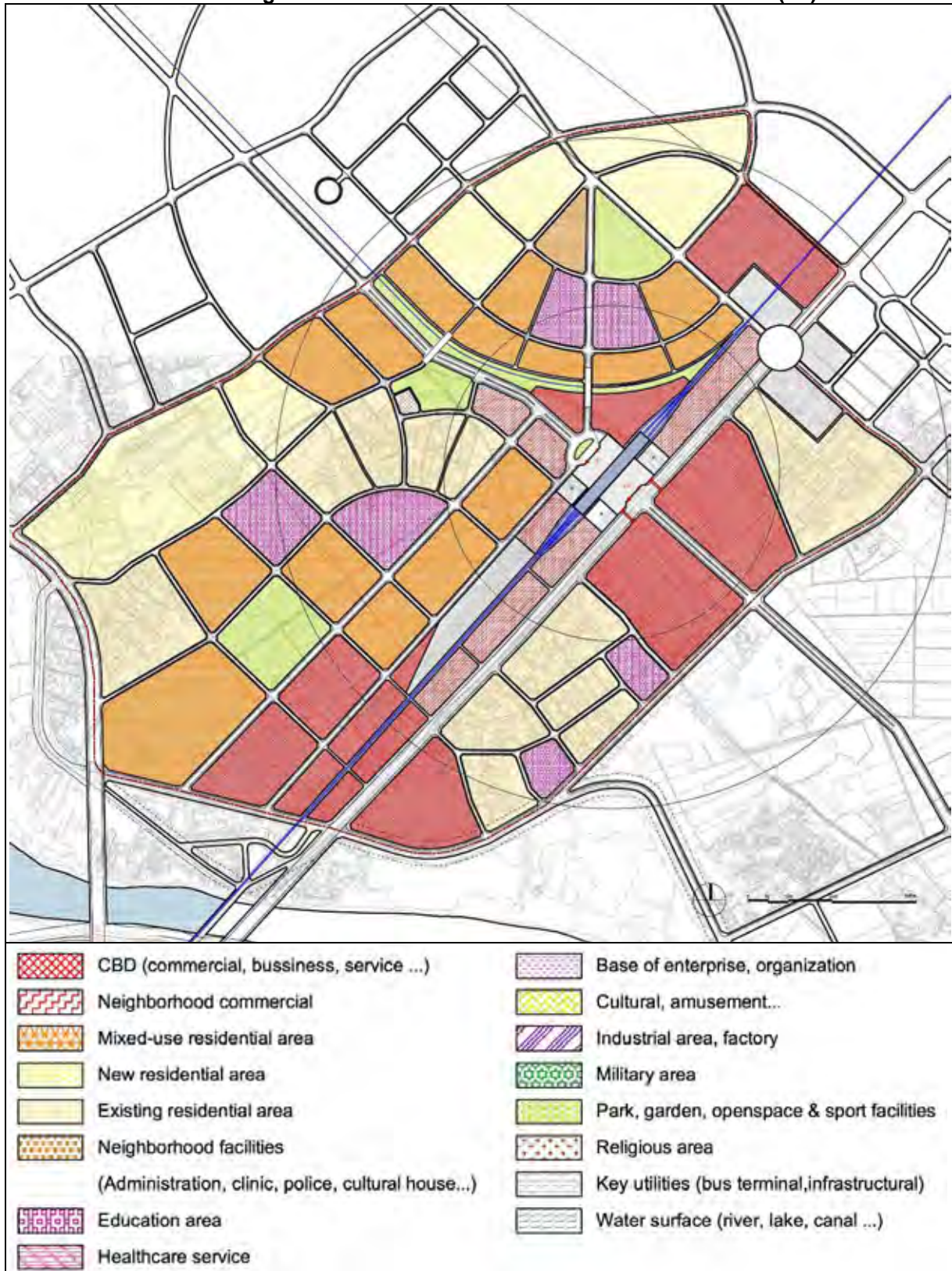
Source: JICA Project Team

Table 5.22.1 Demand Outlook of Yen Vien Station Area (V1)

		Present	UMRT with integrated Urban Development	
			Without	With
Population of Station Area of radius 500m (persons)	Population	3,980	7,000	16,000
	Employment	3,878	8,000	14,400
	Student	1,865	2,000	4,500
Ridership (persons/day)		-	32,530	37,000

Source: JICA Project Team

Figure 5.22.2 Landuse Plan of Yen Vien Station Area (V1)



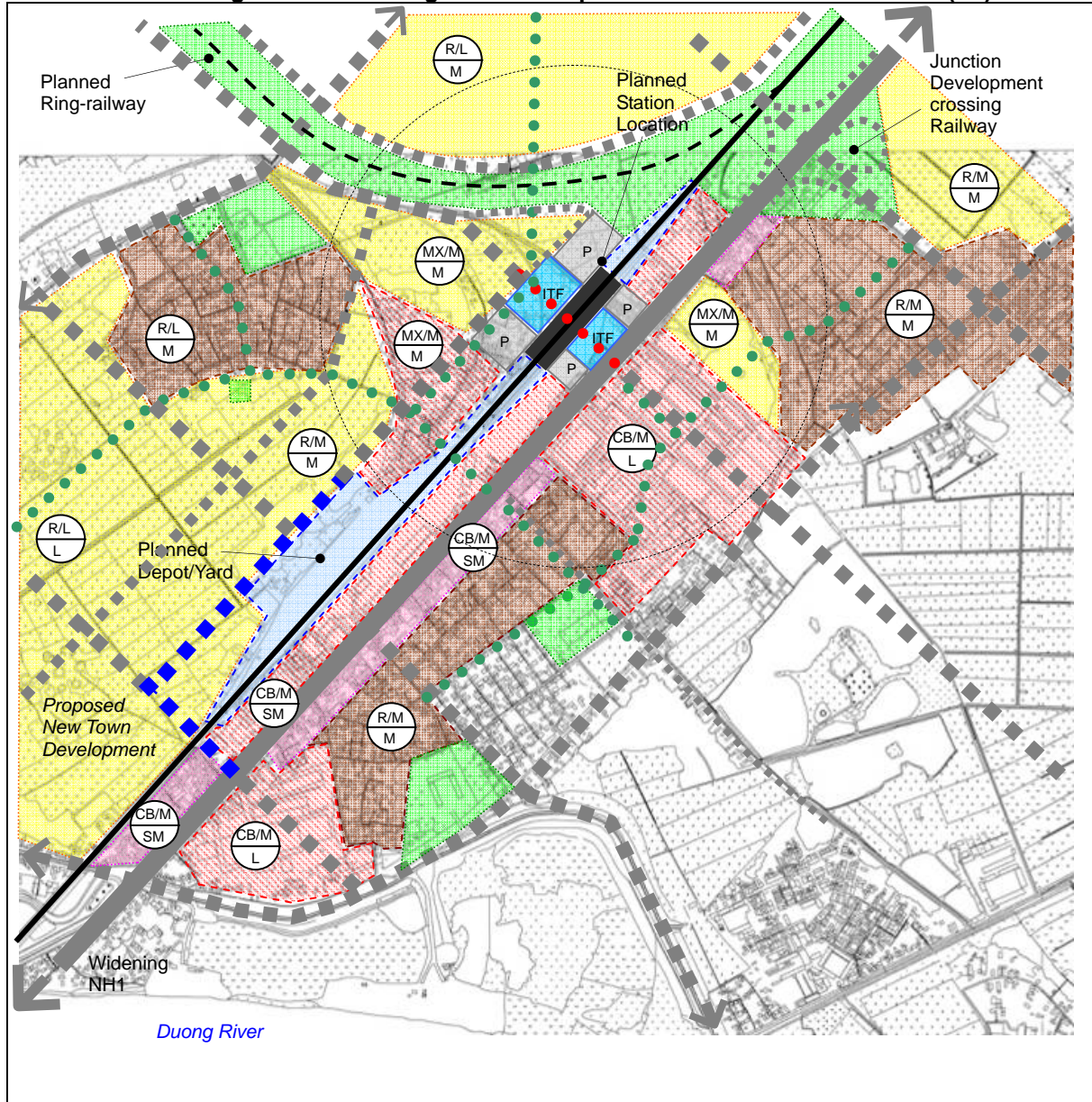
Source: JICA Project Team

5.22.2 Long-Term Plan

5238 In the station area, there are factories along NH-1, and existing rural villages and agricultural lands in north side of railway. Station development will provide an opportunity to develop this area from suburban into urban center. It is proposed to redevelop areas along NH-1 for commercial and business faculties, and areas of villages and agricultural lands for new town development.

5239 To formulate appropriate road network around the station, Ring-Railway will be located north-eastern side of the station.

Figure 5.22.3 Long-term Concept Plan of Yen Vien Station Area (V1)



Source: JICA Project Team

Table 5.22.2 Project Component for Integrated Urban Development of Yen Vien Station Area (V1)

Category	ID	Projects/Program	Scale/Area	Implementation Body			Phase
				Public	Private	PPP	
Road and Walkway	TR-1	Highway No.1 Width Expansion (planned)	--	●	--	--	Short-mid
	TR-2	Station Access Major Road Development	1.5 km	●	○	--	Short-mid
	TR-3	Station Access Junction Development	1 unit	●	--	--	Medium
	TR-4	New Urban Area Local Road Development	--	●	○	--	Medium
	TR-5	Access Local Road Improvement	2.5 km	●	○	--	Medium
Intermodal Facilities	ITF-1	Inter-modal Transfer Facilities (south) incl. P&R	0.7ha	●	○	--	short
	ITF-2	Inter-modal Transfer Facilities (north) incl. P&R	1.0ha	●	○	--	Medium
Feeder Service	FS-1	Bus Stop Station Facilities and Route Service	2 unit	--	●	--	short
	FS-2	Taxi & Xe-om Stop Station Facilities and Service	2 unit	--	●	--	short
	FS-3	Expansion Facilities and Service in north ITF	2 unit	--	●	--	Medium
Traffic Control & Management	TM-1	Crosswalk with Signal Control	2 unit	●	--	--	short
	TM-2	Traffic lane control for Junction Development	1 unit	●	--	--	Medium
Urban Redevelopment	UR-1	Railway Yard Redevelopment (east and west)	5.4ha	--	●	--	Short-mid
	UR-2	Station-front Redevelopment (village beside station)	4.5ha	--	●	--	Medium
	UR-3	Station-front Redevelopment (factory along NH1)	10 ha	--	●	--	Medium
New Urban Dev	ND-1	Yen Vien Station Town Development	70 ha	○	●	--	Mid-long
	ND-2	Station-front Urban Center Development	10 ha	○	●	--	Medium
Urban Renovation Promotion	RP-1	Roadside Corridor Commercial Consolidation-I	2.0ha	○	●	--	Short-mid
	RP-2	Roadside Corridor Commercial Consolidation-II	3.3ha	--	●	--	Mid-long
	RP-3	Land Use Conversion from Factory (Westside)	4 ha	--	●	--	Mid-long
Living Environment Improvement	LEI-1	Yen Vien Town South Improvement	9.5ha	●	○	--	Mid-long
	LEI-2	Yen Vien Villages Improvement (north)	16 ha	●	○	--	Mid-long
	LEI-3	Yen Vien Villages Improvement (east)	14 ha	●	○	--	Mid-long

Source: JICA Project Team

5.22.3 Issues to be Clarified

5240 Coordination with road development to cross over railway (mid and long-term):
At present, there are few roads to cross railway. It is necessary to plan location, structure (ex. flyover, tunnel) and width, in terms of appropriate station area development.

5241 Location of Ring-Railway: Existing railway is located in front of station location. In terms of integrated station area development, planned Ring-Railway to go to Lao Cai will be located some more north, where will not segmentise station area.

5.23 Cau Duong (V2) Station Area

5.23.1 Development Character

a) Existing Condition and Issues

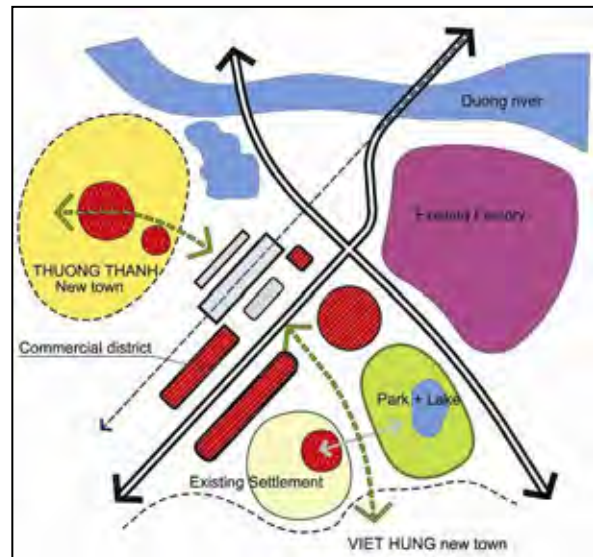
5242 Cau Duong Station will be located near to the ramp of NH-1 and the bridge of Duong River. Along with the railway, small factories are located. On the east side of the ramp, Big factories of light industry are clustered. Along with NH-1 (Ngo Gia Tu Street), small commercial and service shops are located, and inside of residential area east side of NH-1, small factories and companies are mixed. West side of railway and along the dyke road are field of fruits, vegetables and rice.

5243 Nearly half of residents are engaged in agricultural or industrial sectors. Though the land around the station is already built up, there are two new town development projects where are agricultural lands at present.

b) Development Objectives

5244 To support daily transport activities of residents in new towns and existing settlement, station area will be developed along NH-1. In future, city trunk road will be developed and an integrated transport network with railway and roads will be formulated.

Figure 5.23.1 Conceptual Diagram of Cau Duong Station Area (V2)



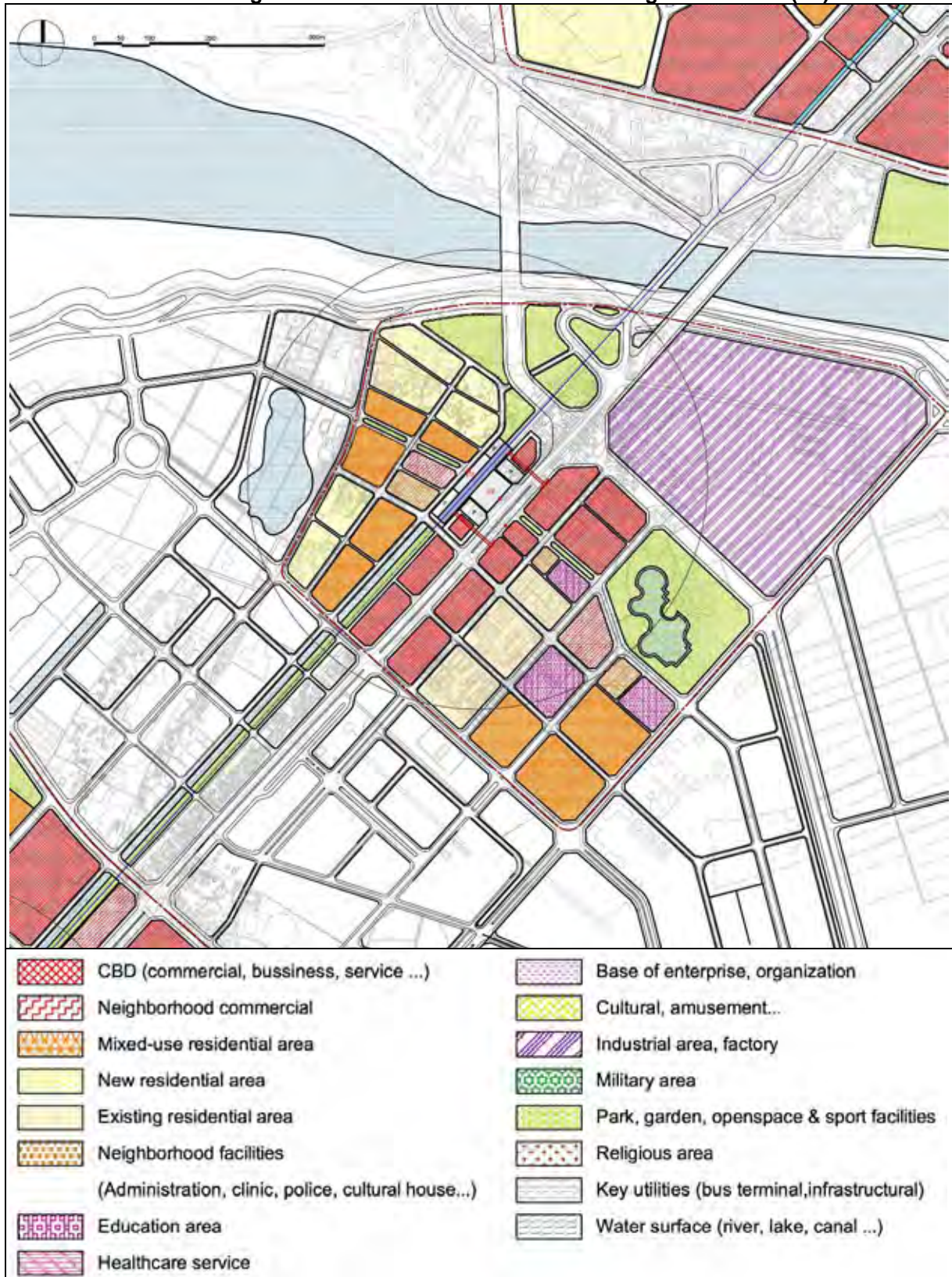
Source: JICA Project Team

Table 5.23.1 Demand Outlook of Cau Duong Station Area (V2)

		Present	UMRT with integrated Urban Development	
			Without	With
Population of Station Area of radius 500m (persons)	Population	3,127	7,400	7,900
	Employment	2,226	5,800	6,800
	Student	774	1,200	1,300
Ridership (persons/day)		-	32,900	37,400

Source: JICA Project Team

Figure 5.23.2 Landuse Plan of Cau Duong Station Area (V2)



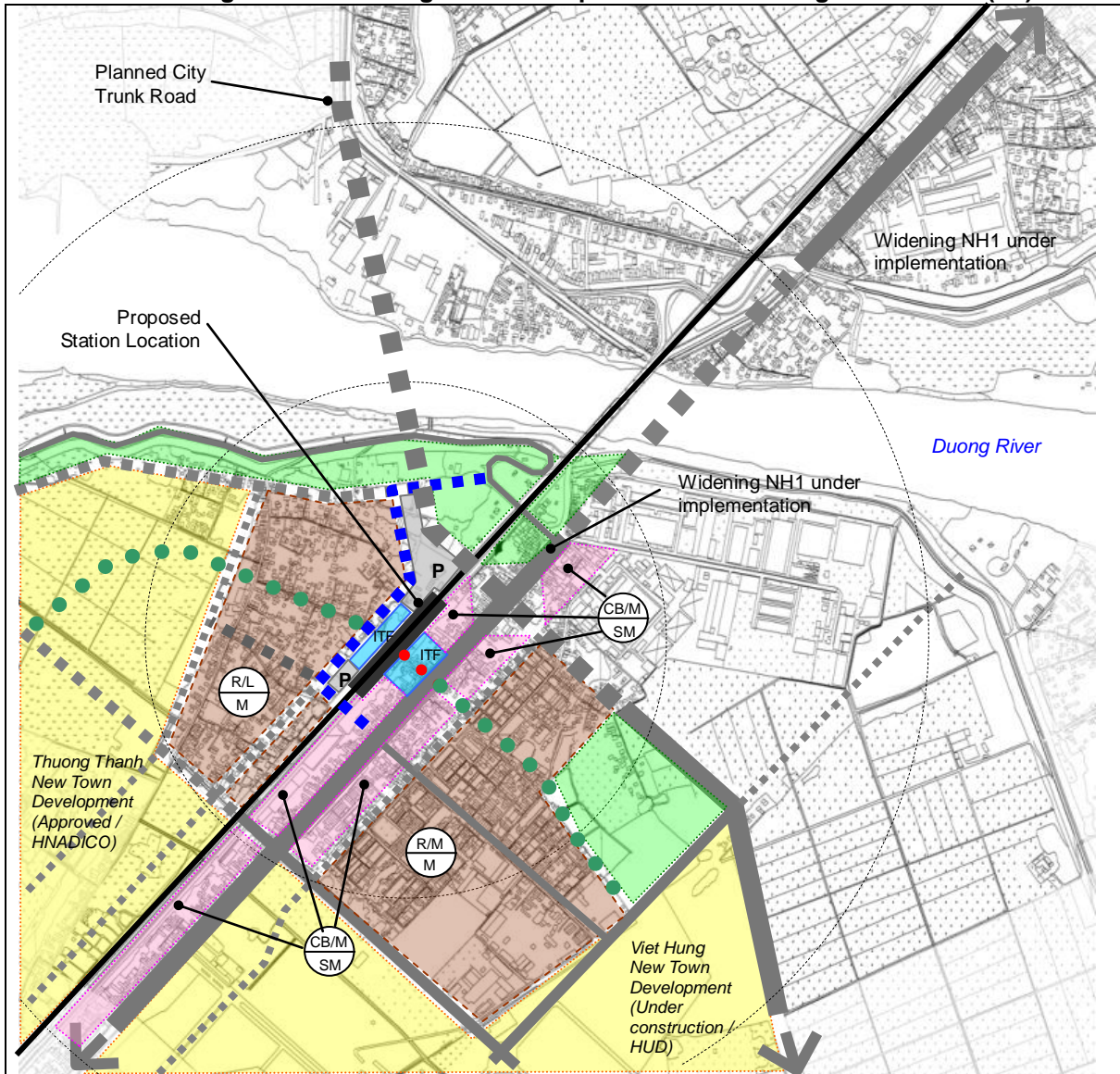
Source: JICA Project Team

5.23.2 Long-Term Plan

5245 Intermodal facility will be developed both north and south side of station, since many passengers are expected from Thuong Thanh New Town in north and Viet Hung New Town in south. Though small shops are clustered along NH-1, more commercial and business facilities will be clustered along NH-1.

5246 Station access road will be developed in north. The main access roads from new town and existing residential areas are designed for pedestrian.

Figure 5.23.3 Long-term Concept Plan of Cau Duong Station Area (V2)



Source: JICA Project Team

**Table 5.23.2 Project Component for Integrated Urban Development of
 Cau Duong Station Area (V2)**

Category	ID	Projects/Program	Scale/Area	Implementation Body			Phase
				Public	Private	PPP	
Road and Walkway	TR-1	Highway No.1 Width Expansion (planned)	--	●	--	--	Short-mid
	TR-2	New Road and Intersection with Bridge (planned)	--	●	--	--	Mid-long
	TR-3	Station Access Road Development	330 m	●	○	--	short
Intermodal Facilities	ITF-1	Inter-modal Transfer Facilities –I (south) incl. P&R	0.5ha	●	○	--	short
	ITF-2	Inter-modal Transfer Facilities–II (north) incl. P&R	0.4ha	●	○	--	Medium
Feeder Service	FS-1	Bus Stop Station Facilities and Route Service	4 unit	--	●	--	short
	FS-2	Taxi & Xe-om Stop Station Facilities and Service	4 unit	--	●	--	short
Traffic Control & Management	TM-1	Crosswalk with Signal Control	2 unit	●	--	--	short
New Urban Development Area	ND-1	Thuong Thanh New Town Development	--	--	●	--	Medium
	ND-2	Duong River-front Park Development	3.0ha	--	●	--	Short-mid
Urban Renovation Promotion Area	RP-1	NH1 Roadside Corridor Commercial Consolidation	5.8ha	○	●	--	Short-mid
Living Environment Improvement	LEI-1	Thuong Thanh Village Improvement	11ha	●	○	--	Mid-long

Source: JICA Project Team

5.23.3 Issues to be Clarified

5247 Improvement of accessibility from NH-1 to station (short-term): There are existing built-up area between NH-1 and station. To improve accessibility to station, it is proposed to develop an access road and ITF in short-term. Land Readjustment project can be implemented to develop ITF.

5248 Location of planned city trunk road and intersection (long-term): The city trunk road is planned in north of station. Since the intersection is near to station, it is necessary to adjust its alignment to cross the railway smoothly.

5.24 Duc Giang (V3) Station Area

5.24.1 Development Character

a) Existing Condition and Issues

5249 Industries and factories, of petro, steel, and electricity, etc. are clustered on the west side of railway. Duc Giang Street is an arterial road to connect to this industrial area from NH-1. Nearly half of residents in Duc Giang Commune are engaged of industry sector.

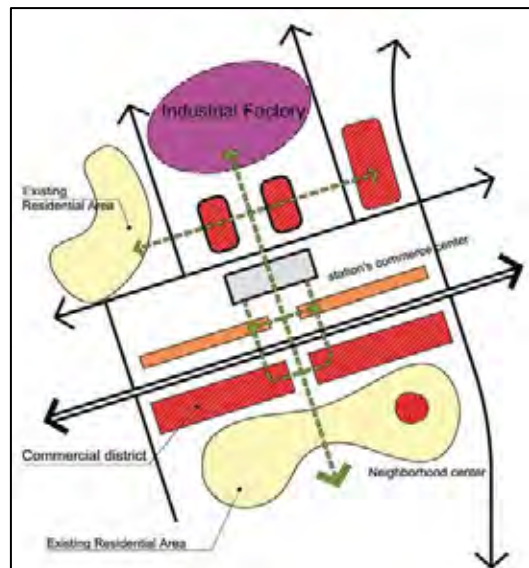
5250 Commercial facilities and public service facilities are located along NH-1 (Nguyen Can Cu Street). There is a Viet Hung Market which is high-rise shopping center. NH-1 has already been widened around this area, and it is used for parking at present. Between the railway and NH-1, many settlements are located and there are only narrow alleys.

5251 Duc Giang Hospital is located 500m far from the station location. Around the hospital, many schools are located. But there are only collector roads and alleys around there, and it is difficult to across NH-1 especially for elderly, disabled and children. Pedestrian environment should be improved to access to the hospital and schools.

b) Development Objectives

5252 Station area development will convert from mono-landuse of industries into mixed-landuse. Commercial and residential development around station and along NH-1 will contribute both employees and residents attractive and convenient working and living condition. Industrial factory area will be converted to environmental friendly industries to harmonize residential areas.

Figure 5.24.1 Conceptual Diagram of Duc Giang Station Area (V3)



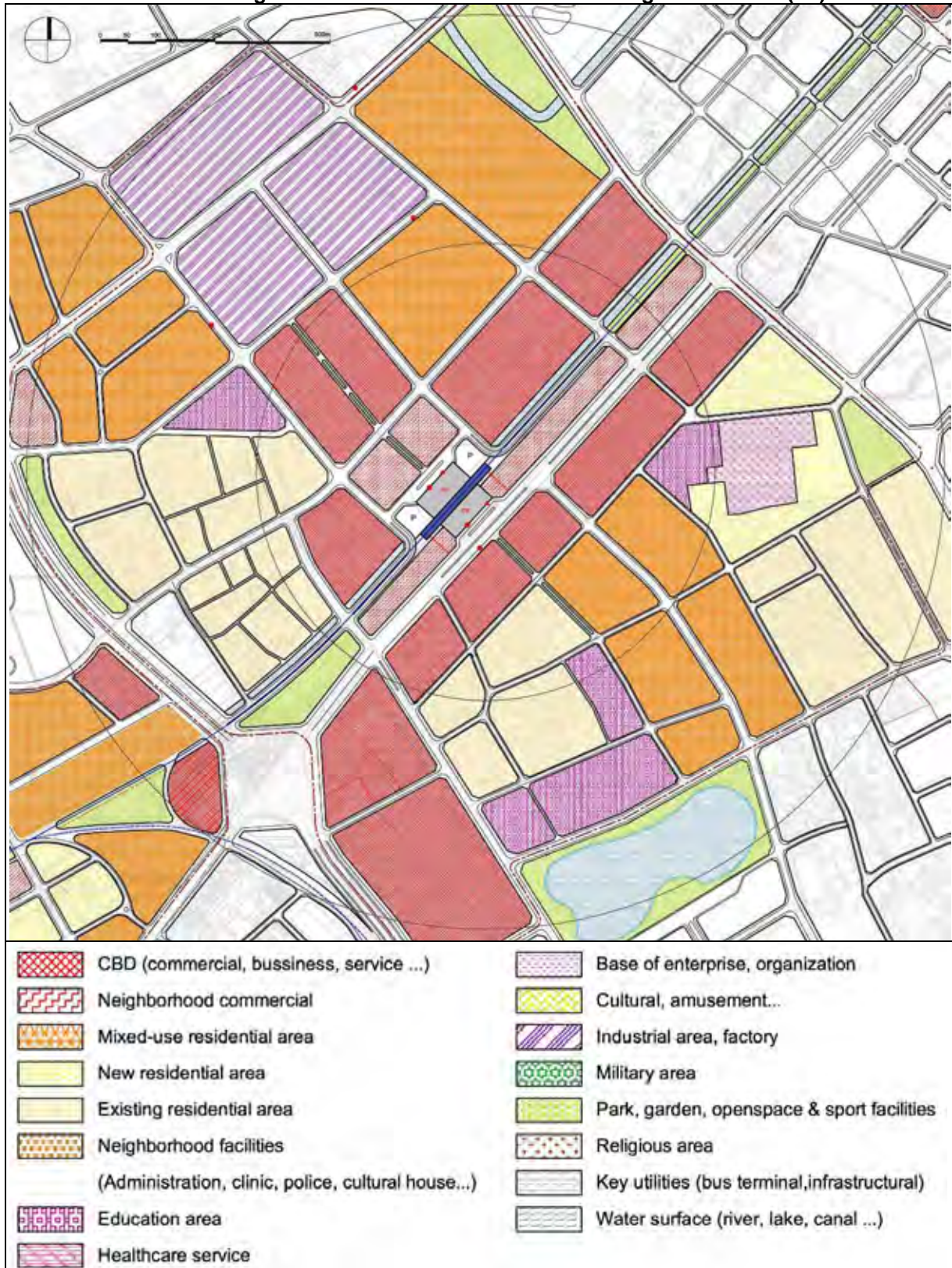
Source: JICA Project Team

Table 5.24.1 Demand Outlook of Duc Giang Station Area (V3)

		Present	UMRT with integrated Urban Development	
			Without	With
Population of Station Area of radius 500m (persons)	Population	8,805	8,400	8,900
	Employment	2,599	4,500	9,000
	Student	770	978	1,000
Ridership (persons/day)		-	7,500	10,900

Source: JICA Project Team

Figure 5.24.2 Landuse Plan of Duc Giang Station Area (V3)



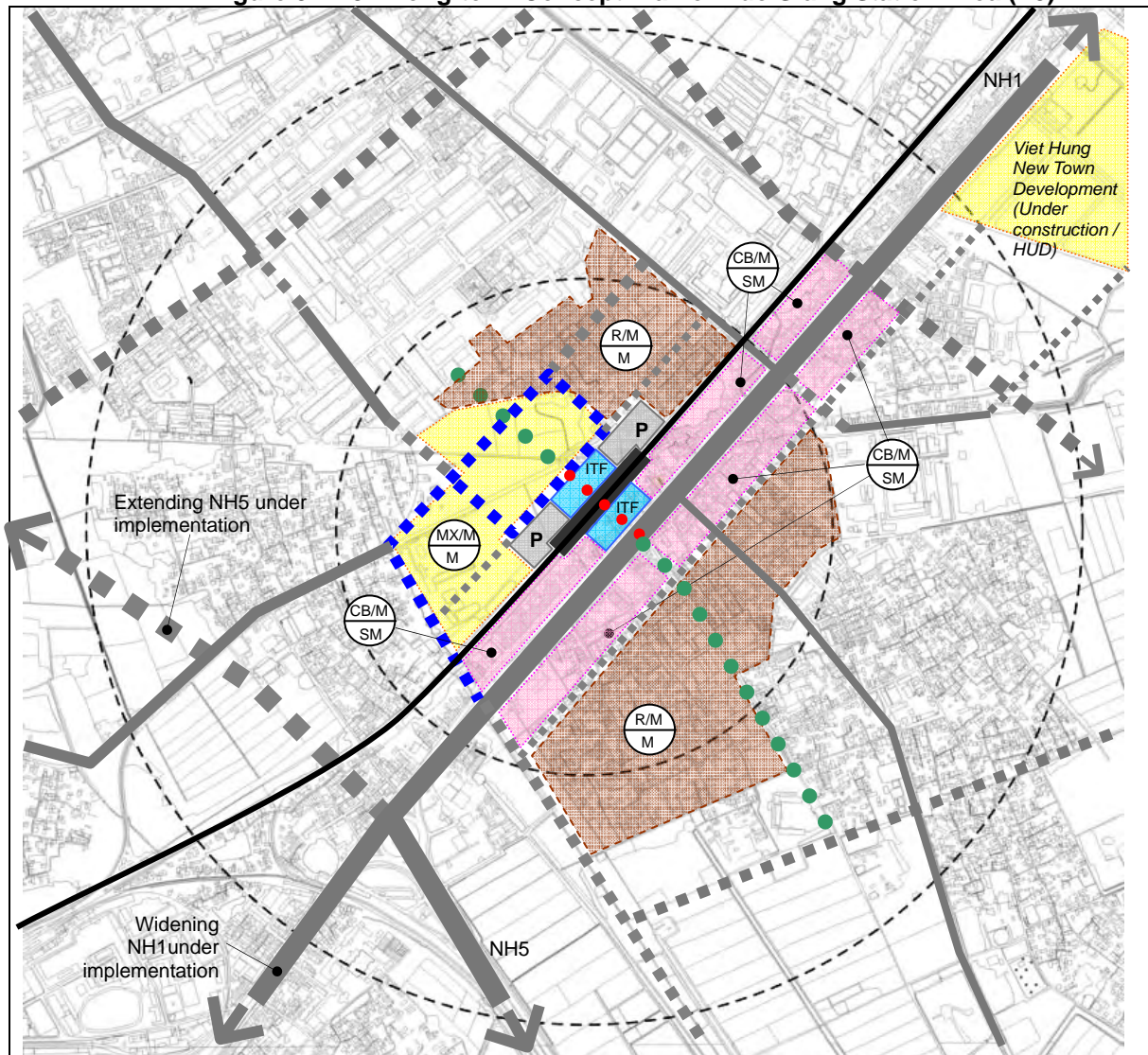
Source: JICA Project Team

5.24.2 Long-Term Plan

5253 Intermodal facility will be developed in both north and south. In north, agricultural land will be developed to intermodal facility and parking spaces, and station access roads will be developed together with station development. In long-term, land acquisition and urban redevelopment is necessary to develop the south intermodal facility.

5254 Since there are mostly built-up areas around the station, big-scale urban development activities are not expected. Gradually, commercial and business facilities will be developed between railway and NH-1 to serve for station users and residents. Widening of NH-1 is ongoing, so new facility development will be coordinated with the road development project. In long-term, NH-5 will be extended to north-east.

Figure 5.24.3 Long-term Concept Plan of Duc Giang Station Area (V3)



Source: JICA Project Team

Table 5.24.2 Project Component for Integrated Urban Development of Duc Giang Station Area (V3)

Category	ID	Projects/Program	Scale/ Area	Implementation Body			Phase
				Public	Private	PPP	
Road and Walkway	TR-1	Highway No.1 Width Expansion (planned)	--	●	--	--	Short-mid
	TR-2	Station Access Road (north-side) Development	1.2 km	●	○	--	short
	TR-3	New Urban Area Local Road Development	--	●	○	--	Medium
Intermodal Facilities	ITF-1	Inter-modal Transfer Facilities –I (south) incl. P&R	0.5ha	●	○	--	short
	ITF-2	Inter-modal Transfer Facilities–II (north) incl. P&R	0.4ha	●	○	--	Short-mid
Feeder Service	FS-1	Bus Stop Station Facilities and Route Service	4 unit	--	●	--	short
	FS-2	Taxi & Xe-om Stop Station Facilities and Service	4 unit	--	●	--	short
Traffic Control & Management	TM-1	Crosswalk with Signal Control at ITF	2 unit	●	--	--	short
Urban Redevelopment	UR-1	Factory Area Relocation and Redevelopment	2.5ha	--	●	--	Long
New Urban Development	ND-1	Station Front New Urban Area Development	8.5ha	--	●	--	Medium
Urban Renovation Promotion	RP-1	NH1 Roadside Corridor Commercial Consolidation	7.5ha	○	●	--	Short-mid
Living Environment Improvement	LEI-1	Duc Giang Community Improvement	13 ha	●	○	--	Mid-long
	LEI-2	Viet Hung Community Improvement	20 ha	●	○	--	Mid-long

Source: JICA Project Team

5.24.3 Issues to be Clarified

5255 Improvement of accessibility from NH-1 to station (short-term): There are existing built-up area between NH-1 and station. To improve accessibility to station, it is proposed to develop an access road and ITF in short-term. Land Readjustment project can be implemented to develop ITF.

5.25 Hoang Liet (V13) Station Area

5.25.1 Development Character

a) Existing Condition and Issues

5256 Hoang Liet Station will be located between Yen So Park, Linh Dam Lake. There are many factories on the east side of NH-1, but few commercial and public facilities are located at present.

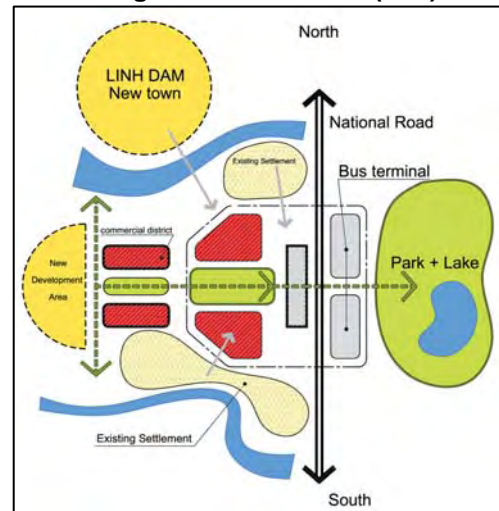
5257 Ring Road No. 3.5 will be developed on the Phap Van and Tu Hiep Housing Development Project is planned on the east of NH-1.

b) Development Objectives

5258 Hoang Liet Station will be a center facility of new towns. In integration with road network development, station area will be developed to serve for new town residents, visitors to park, and employees.

5259 The landuse of station area will be converted from industrial and agricultural into commercial and residential in future. With a new bus terminal, a public transport network will be formulated as one of transport hubs of south of Hanoi.

Figure 5.25.1 Conceptual Diagram of Hoang Liet Station Area (V13)



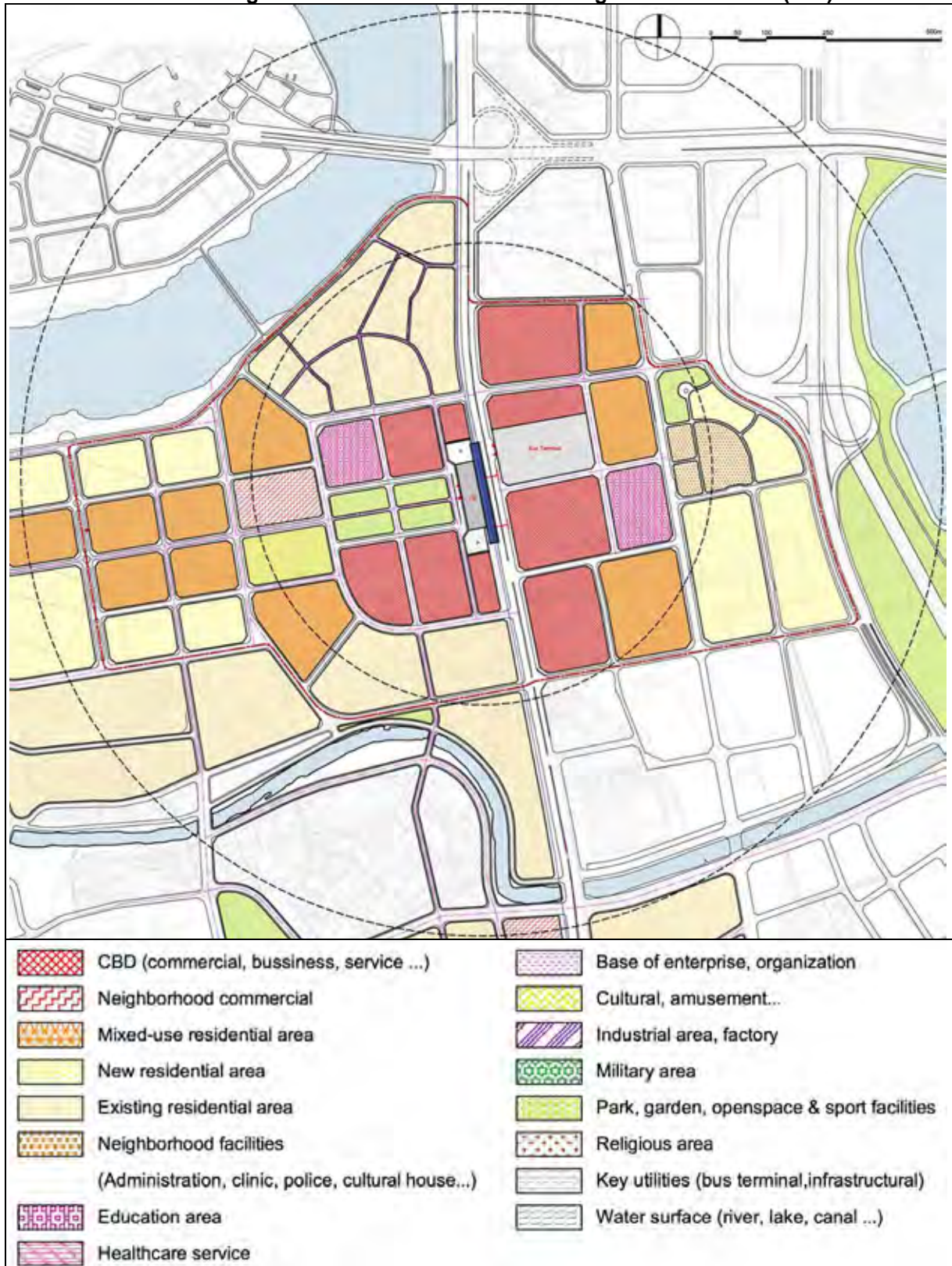
Source: JICA Project Team

Table 5.25.1 Demand Outlook of Hoang Liet Station Area (V13)

		Present	UMRT with integrated Urban Development	
			Without	With
Population of Station Area of radius 500m (persons)	Population	2,659	8,200	11,200
	Employment	1,985	4,700	12,000
	Student	918	2,200	3,000
Ridership (persons/day)		-	7,800	12,800

Source: JICA Project Team

Figure 5.25.2 Landuse Plan of Hoang Liet Station Area (V13)



Source: JICA Project Team

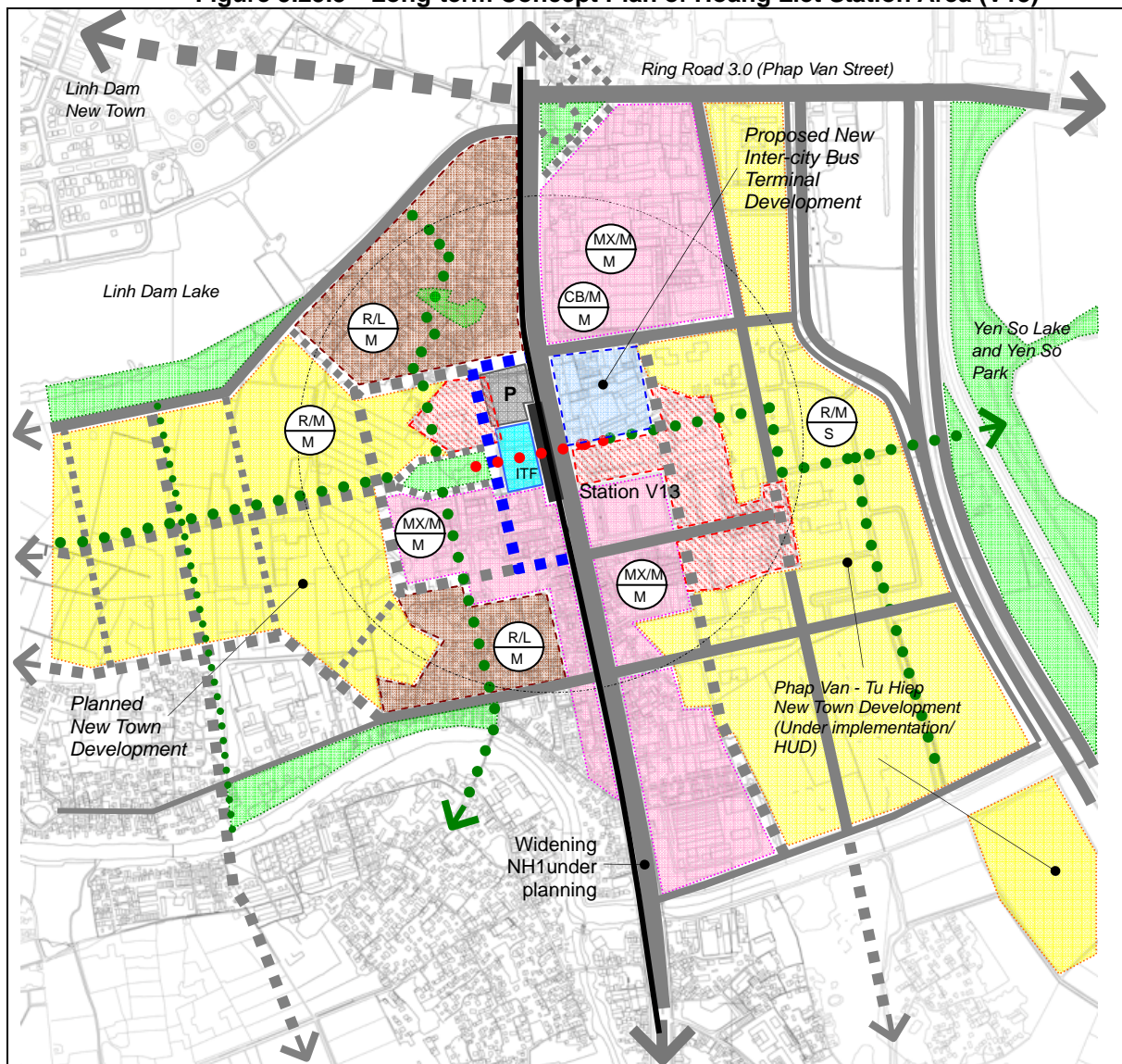
5.25.2 Long-Term Plan

5260 Intermodal facility will be developed in west. The urban axis connecting planned new town development in west, station, Phap Van – Tu Hiep New Town and Yen So Lake will be formulated a comfortable pedestrian space, as a landmark of this station area.

5261 Along NH-1, commercial and business facilities will be clustered where new town residents enjoy working, shopping and relaxing around their neighboring areas.

5262 In future, Giap Bat Bus Terminal might be relocated to south. It is proposed to develop a new inter-city bus terminal in front of Hoang Liet Station where factories are located at present.

Figure 5.25.3 Long-term Concept Plan of Hoang Liet Station Area (V13)



Source: JICA Project Team

Table 5.25.2 Project Component for Integrated Urban Development of Hoang Liet Station Area (V13)

Category	ID	Projects/Program	Scale/ Area	Implementation Body			Phase
				Public	Private	PPP	
Road and Walkway	TR-1	Highway No.1 Width Partial Expansion (planned)	0.2 ha	●	--	--	Short-mid
Intermodal Facilities	ITF-1	Inter-modal Transfer Facilities –I (west)	0.1ha	●	○	--	short
	ITF-2	Inter-modal Transfer Facilities–II (east)	0.1ha	●	○	--	short
Feeder Service	FS-1	Bus Stop Station Facilities and Route Service	2 unit	--	●	--	short
	FS-2	Taxi & Xe-om Stop Station Facilities and Service	2 unit	--	●	--	short
Urban Redevelopment	UR-1	Station (east) Front Factory Redevelopment	6.0ha	--	●	--	Short-mid
	UR-2	Station Urban Plaza Redevelopment (west)	0.2ha	--	●	--	Short-mid
	UR-3	School Relocation (to ND-2 development site)	1.5ha	--	●	--	Short-mid
New Urban Development	ND-1	Phap-Van Tu-Hiep New Town (under construction)	--	--	--	--	--
	ND-2	Station Front New Town Area Development	13ha	--	●	--	Medium
Urban Renovation Promotion	RP-1	NH1 Street Front Commercial Consolidation (west)	0.7ha	--	●	--	Mid-long
	RP-2	Station Commercial Business Consolidation (east)	7.5 ha	--	--	--	Mid-long
Living Environment Improvement	LEI-1	Van Dein Community Improvement	19 ha	●	○	--	Mid-long
	LEI-2	Hoang Liet Community Improvement	9.5 ha	●	○	--	Mid-long

Source: JICA Project Team

5.25.3 Issues to be Clarified

5263 New bus terminal development (long-term): Though relocation of Giap Bat Bus Terminal has not been discussed and planned, it is proposed to develop a new bus terminal in this station area.

5.26 Van Dien (V14) Station Area

5.26.1 Development Character

a) Existing Condition and Issues

5264 Van Dien Station is located along Giai Phong Street (NH-1), and small factories and shops are around it. Though the station is small at present, there are some urban facilities such as Party Committee of Thanh Tri District, Thanh Tri Hospital, Thanh Tri commercial center, etc. The hospital is 500m far from the station and access road is narrow. On the north of station area, Phap Van and Tu Hiep Housing Development Projects are planned. New residential housings are built along NH-1 on the east side while one-story small shops are clustered on the west side.

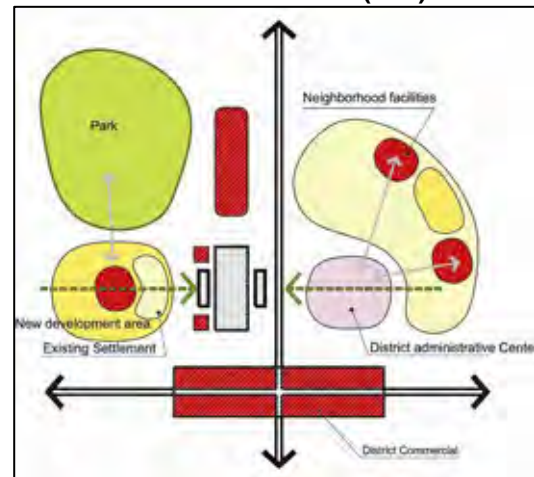
5265 On the west of railway, there are big factories and agricultural lands with settlements. The collector road to west is the Provincial Road No. 17 is not wide but crowded with trucks and buses.

b) Development Objectives

5266 As a district administrative center of Thanh Tri District, station area development will contribute to public and neighboring service.

5267 After connecting Phan Trong Tuc Road extension from west to east, broader-based administrative services would be accessible for citizens living farther out.

Figure 5.26.1 Conceptual Diagram of Van Dien Station Area (V14)



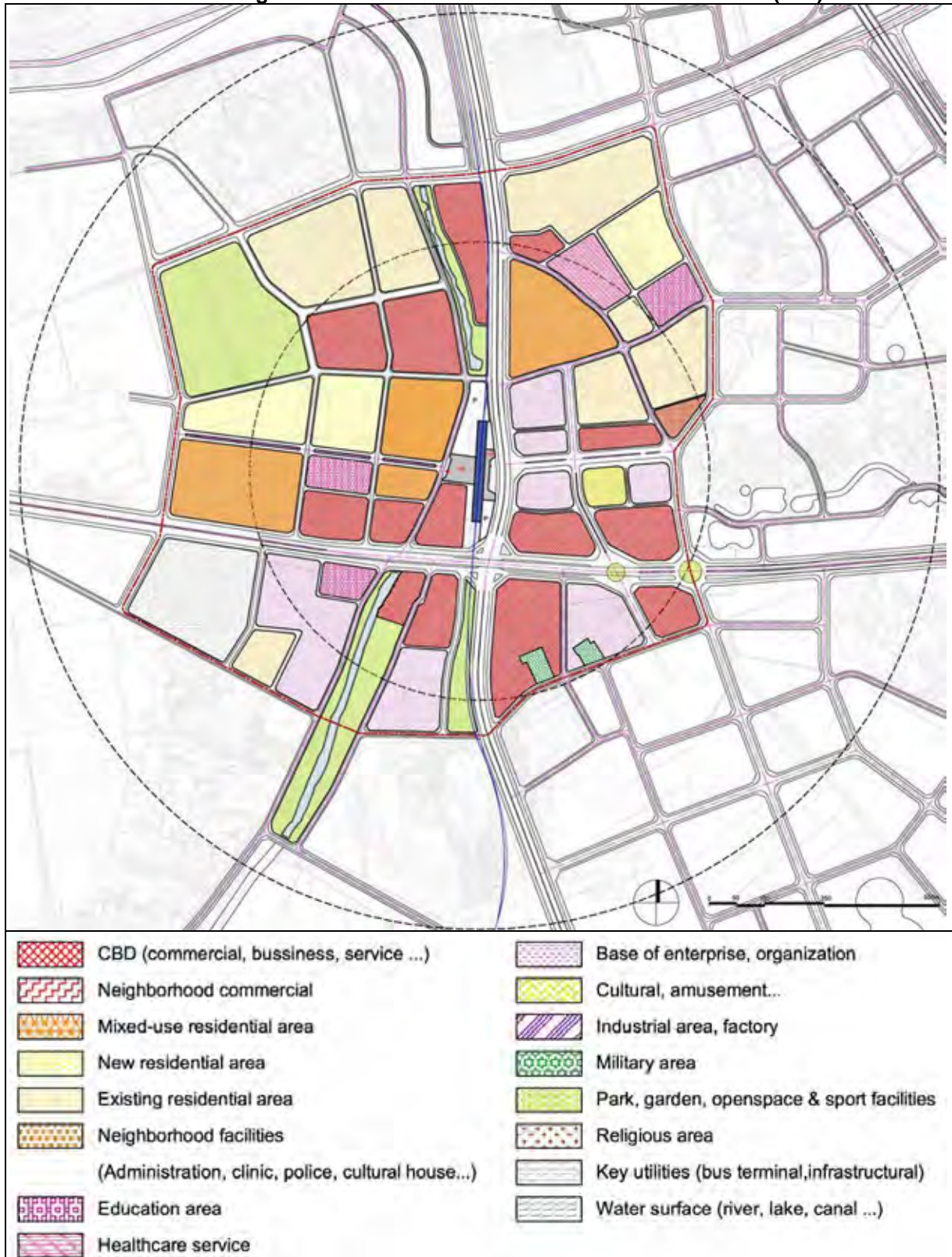
Source: JICA Project Team

Table 5.26.1 Demand Outlook for Van Dien Station Area (V14)

		Present	UMRT with integrated Urban Development	
			Without	With
Population of Station Area of radius 500m (persons)	Population	4,520	9,900	11,900
	Employment	2,461	12,700	15,900
	Student	839	2,300	2,800
Ridership (persons/day)		-	8,100	11,300

Source: JICA Project Team

Figure 5.26.2 Landuse Plan of Van Dien Station Area (V14)



Source: JICA Project Team

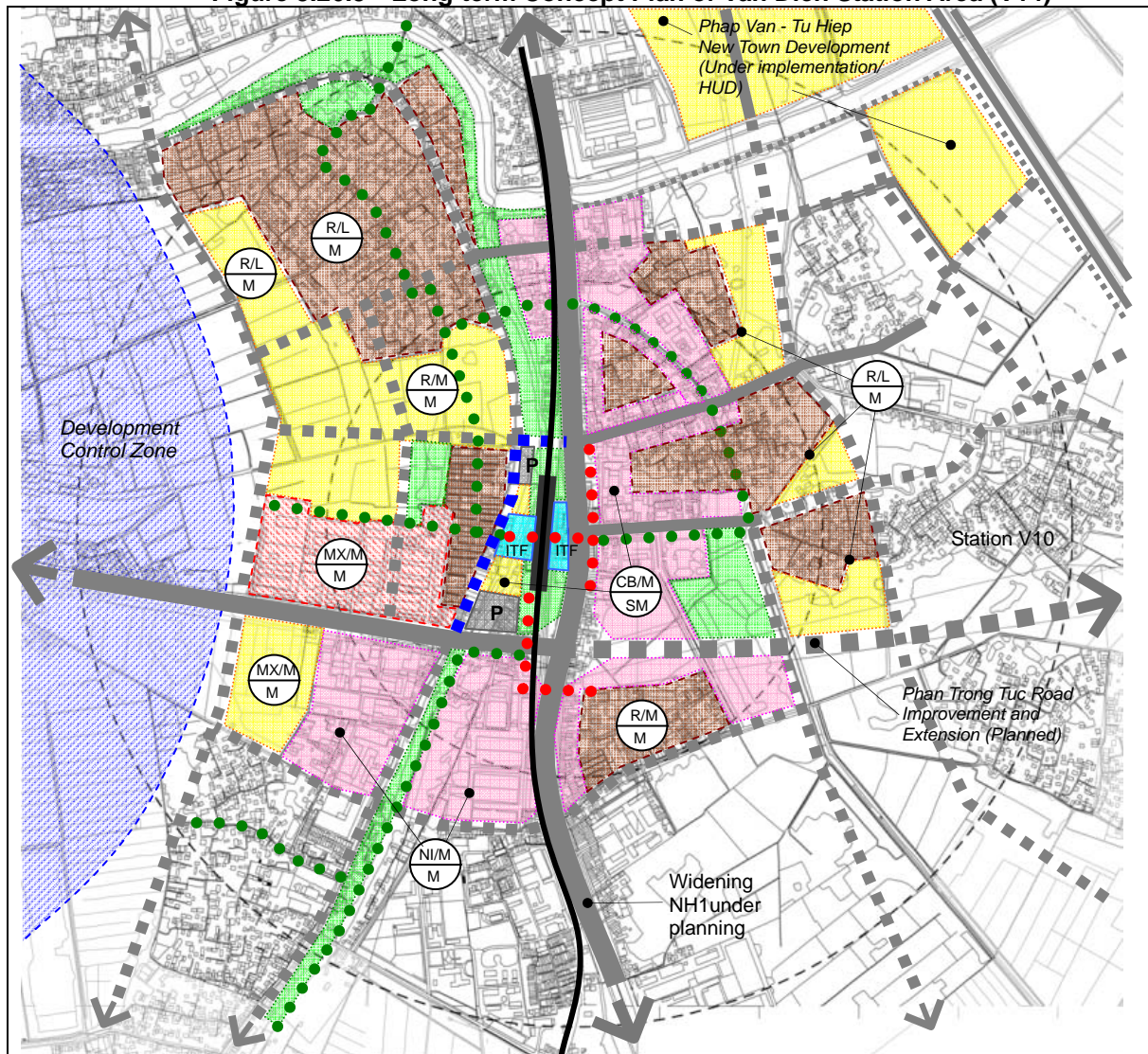
5.26.2 Long-Term Plan

5268 Intermodal facility will be developed both in west and east. The station and East Intermodal Facility will be designed as a symbol of Thanh Tri District which is connected to District Center area in east side of NH-1.

5269 In west of station, there is a development control zone near the airport, potential development areas are limited. Factories and agricultural lands will be developed to commercial and residential areas together with station access roads.

5270 Phan Trong Tuc Road is a trunk road connecting from west to NH-1 at present, and will be extended toward east. After completion, commercial and business facilities will be developed along this road. In short and mid-term, this road needs to be improved for pedestrian, since it is too congested and no sidewalks.

Figure 5.26.3 Long-term Concept Plan of Van Dien Station Area (V14)



Source: JICA Project Team

Table 5.26.2 Project Component for Integrated Urban Development of Van Dien Station Area (V14)

Category	ID	Projects/Program	Scale/Area	Implementation Body			Phase
				Public	Private	PPP	
Road and Walkway	TR-1	Highway No.1 Width Partial Expansion (planned)	0.6 ha	●	--	--	Short-mid
	TR-2	NH70 Road Development Expansion (planned)	--	●	--	--	--
	TR-3	Access Road (west) Development to the Station	400 m	●	--	--	short
Intermodal Facilities	ITF-1	Inter-modal Transfer Facilities –I (west) incl P&R	0.3ha	●	○	--	short
	ITF-2	Inter-modal Transfer Facilities–II (east) incl P&R	0.5ha	●	○	--	short
Feeder Service	FS-1	Bus Stop Station Facilities and Route Service	3 unit	--	●	--	short
	FS-2	Taxi & Xe-om Stop Station Facilities and Service	1 unit	--	●	--	short
Traffic Control & Management	TM-1	Crosswalk with Signal Control at ITF	2 unit	●	--	--	short
Urban Redevelopment	UR-1	Factory Redevelopment	6.8ha	--	●	--	Medium
	UR-2	Station Urban Plaza Redevelopment (west)	1.5 ha	--	●	--	Short-mid
New Urban Development	ND-1	Station Front New Urban Area Development	18 ha	--	●	--	Mid-long
Urban Renovation Promotion	RP-1	NH1 Street Front Commercial Consolidation (west)	0.8ha	--	●	--	Mid-long
	RP-2	Station Commercial Business Consolidation (east)	7.5 ha	--	--	--	Mid-long
Living Environment Improvement	LEI-1	Van Dien West Community Improvement	8 ha	●	○	--	Mid-long
	LEI-2	Van Dien East Community Improvement	8.5 ha	●	○	--	Mid-long

Source: JICA Project Team

5.26.3 Issues to be Clarified

5271 Not specified.