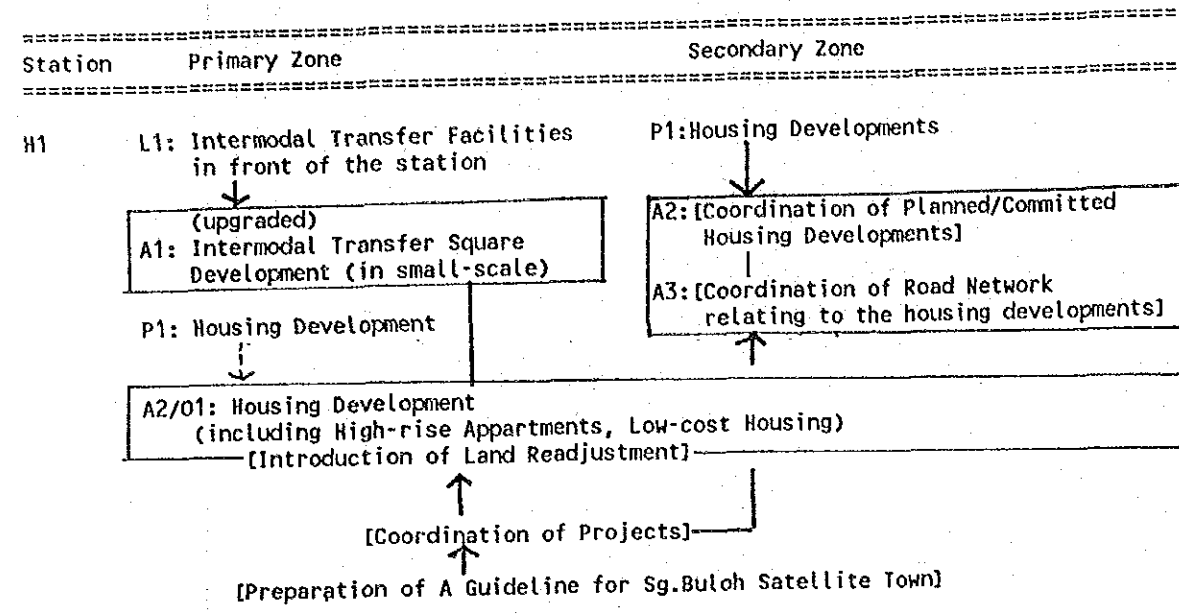
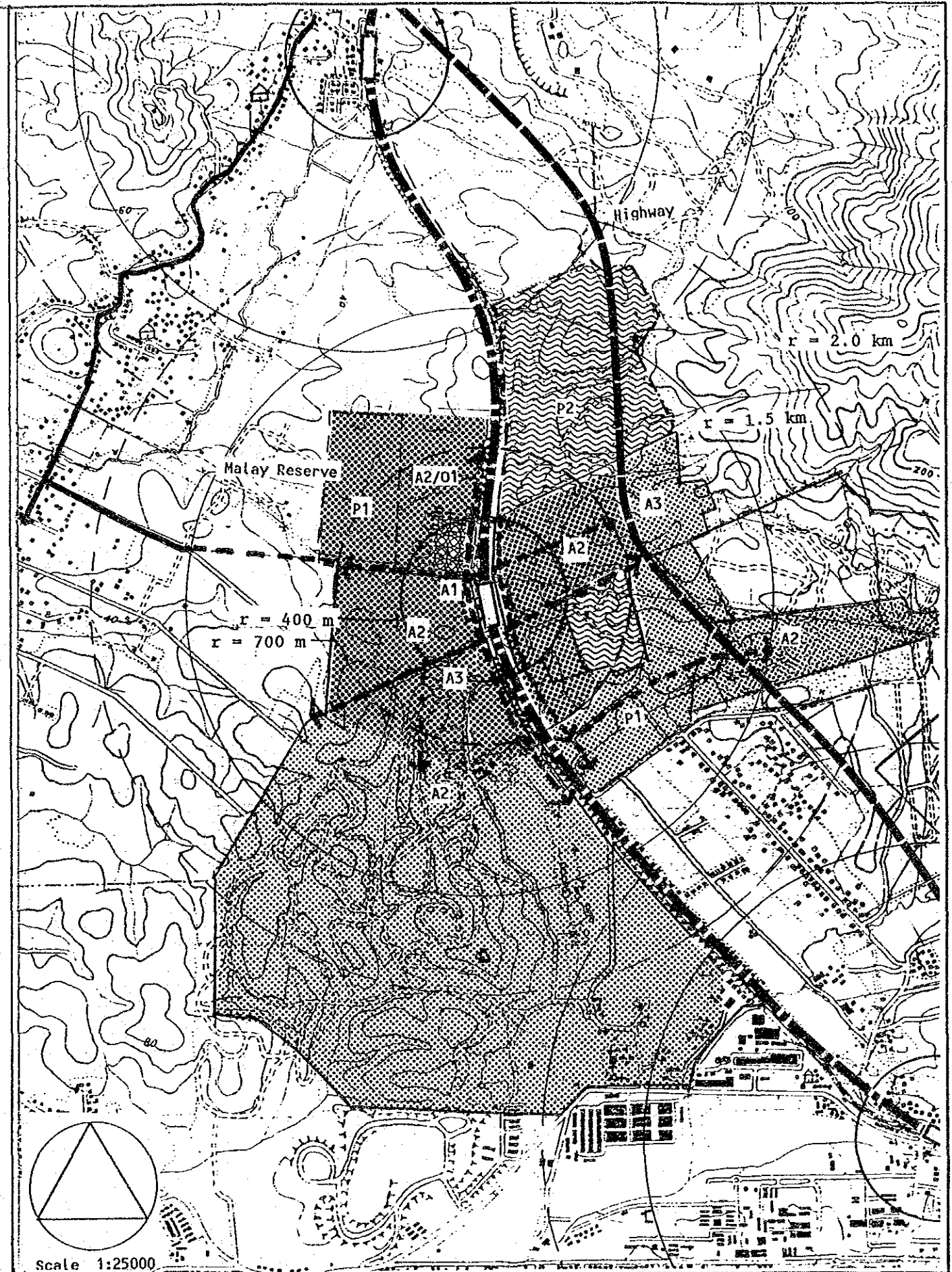


Action Diagram for Case 1 (H1 Station-area)



(Note) Categories of Development Actions (as mentioned in section 13-5-2 (4))

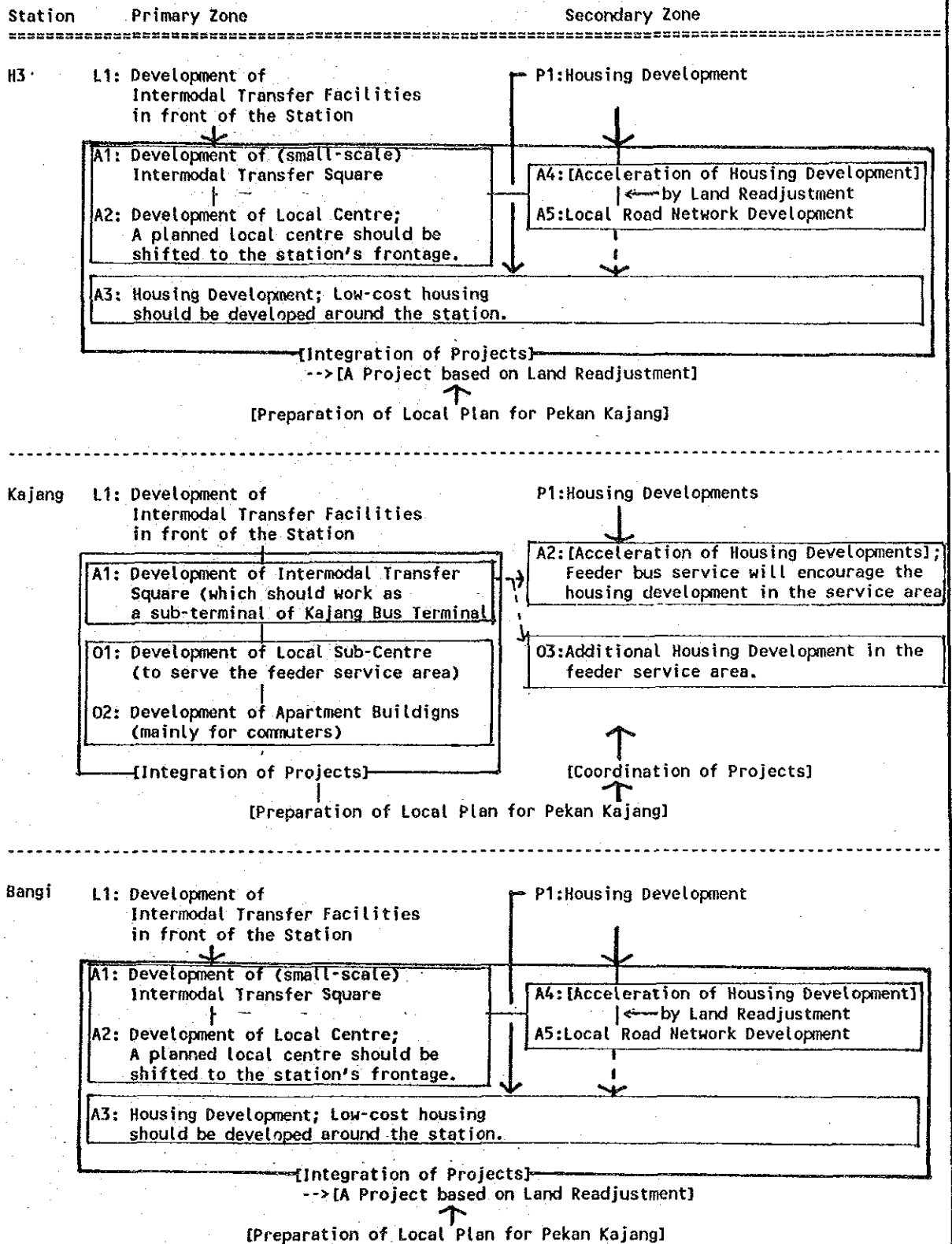
L: Linkage Action A: Alternative Development Action
 P: Planned Development Action O: Optional Development Action
 []: Necessary Government Action



Scale 1:25000

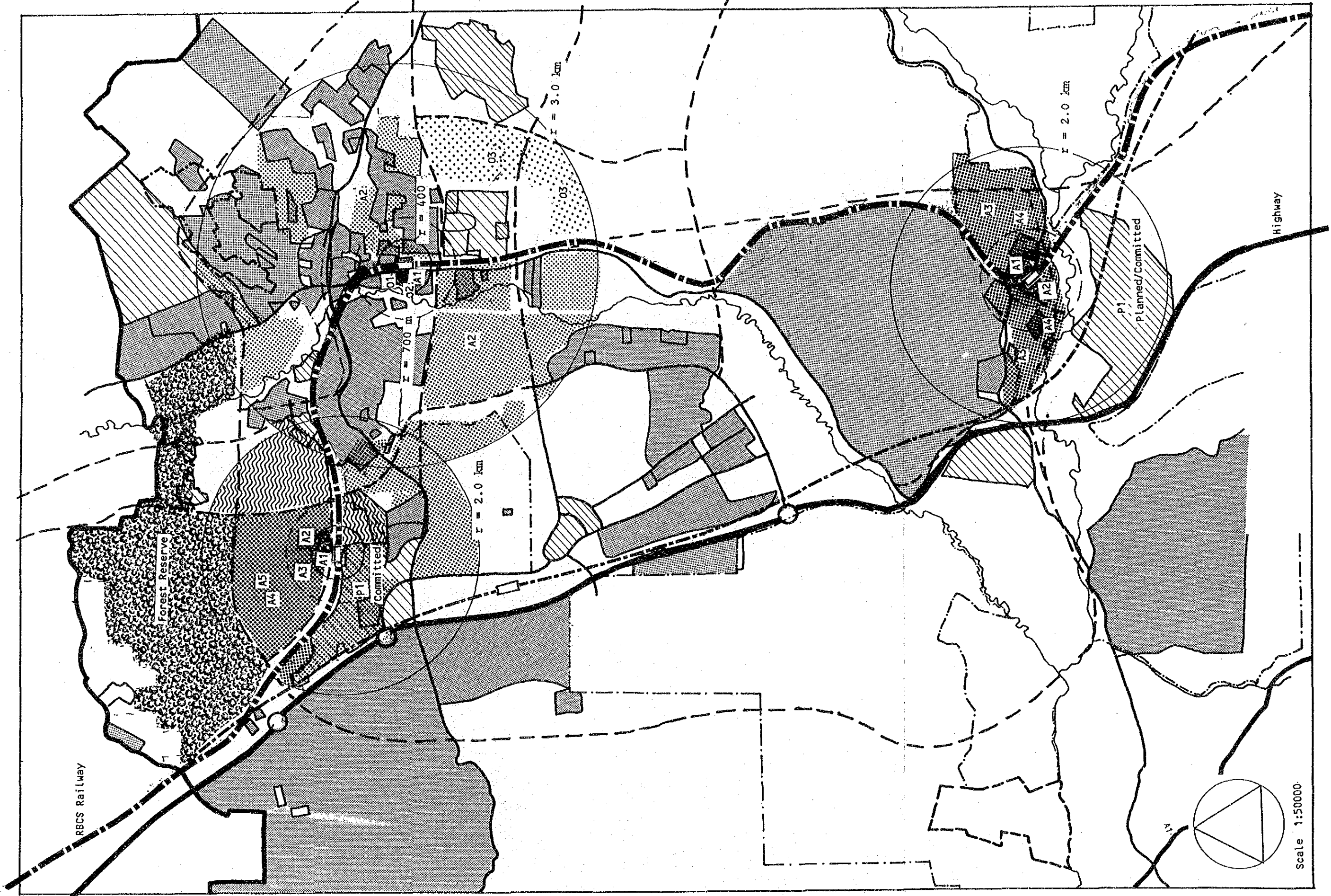
Appendix 13-5-4 Proposed Development Action Diagram for H3, Kajang and Bangi Station-Areas (Case 2) (1/2)

Action Diagram for Case 2 Areas (H3, Kajang and Bangi Stations)

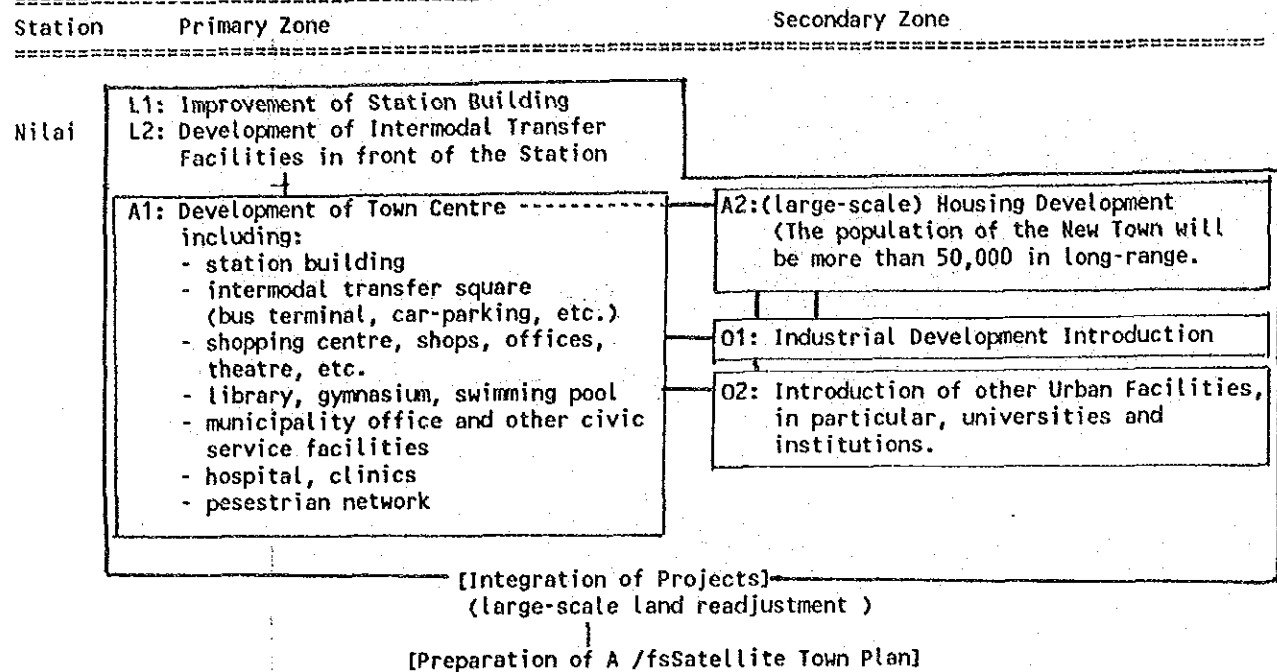


[Note] Categories of Development Actions (as mentioned in section 13-5-2 (4))

L: Linkage Action
 P: Planned Development Action
 A: Alternative Development Action
 O: Optional Development Action
 []: Necessary Government Action



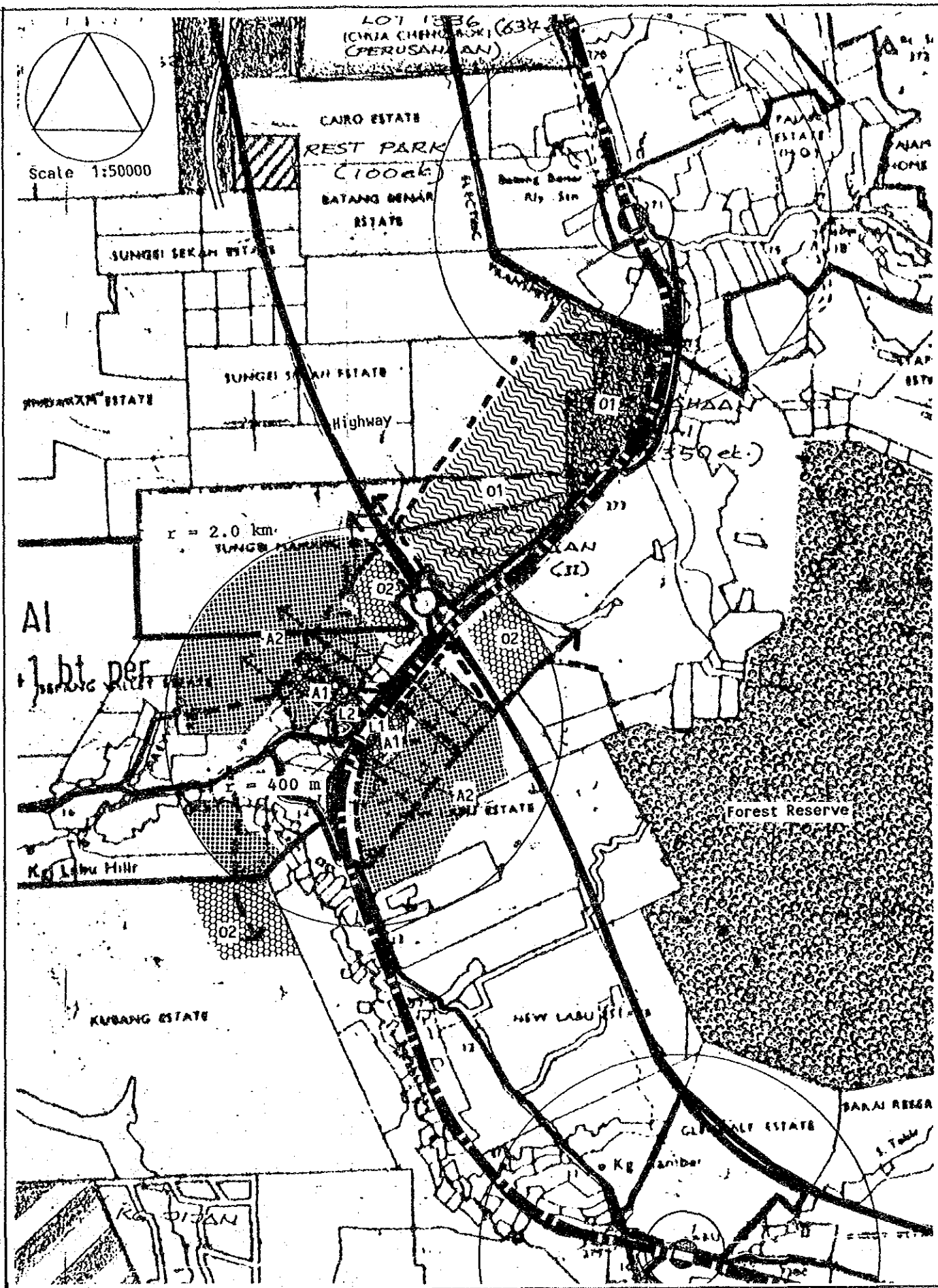
Action Diagram for Nilai Station-area (Case 3)



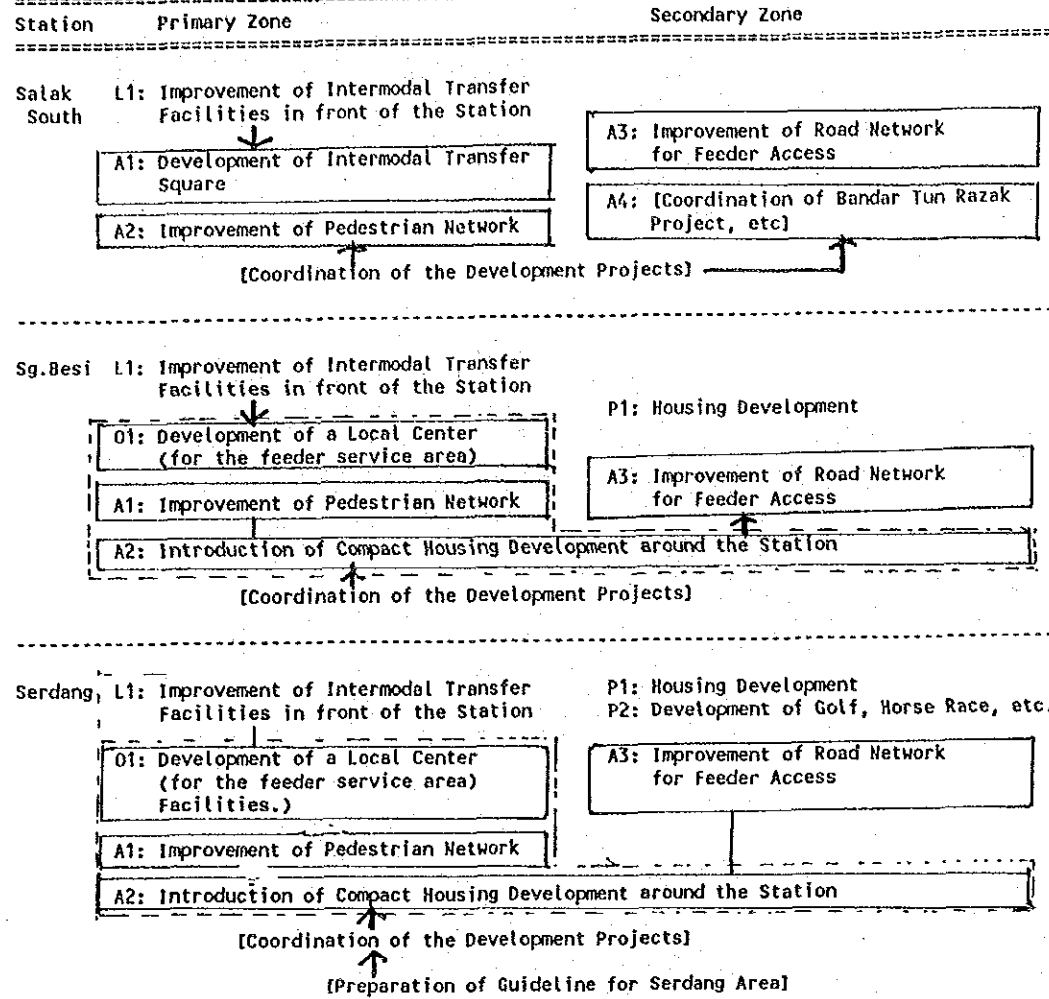
[Note] Categories of Development Actions (as mentioned in section 13-5-2 (4))

L: Linkage Action A: Alternative Development Action
 P: Planned Development Action O: Optional Development Action

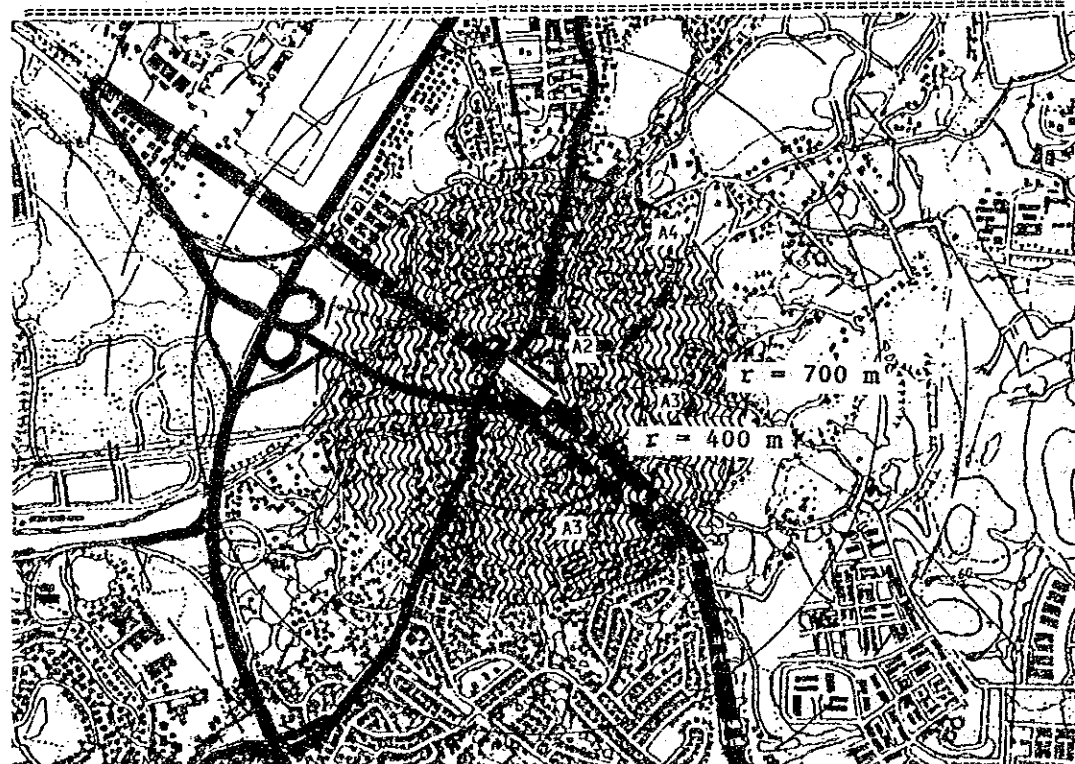
[]: Necessary Government Action



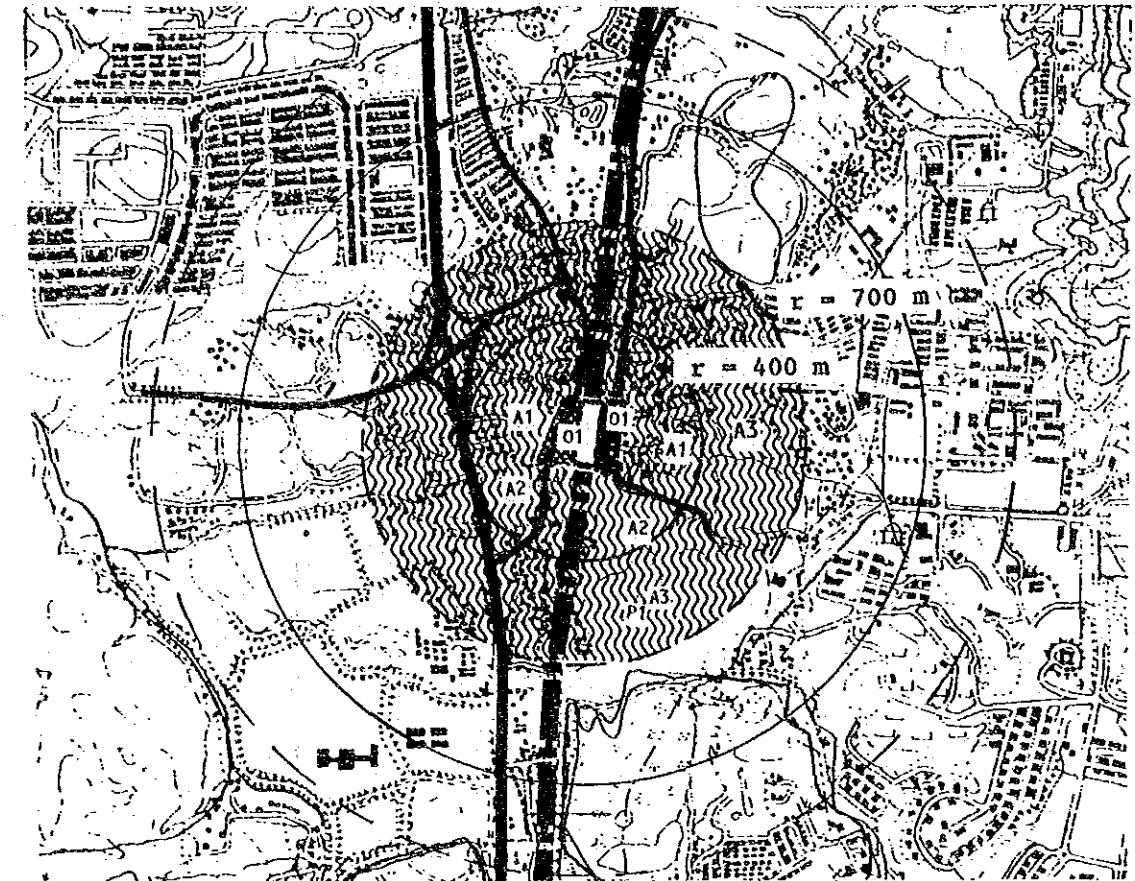
Action Diagram for Case 4 Areas (Salak South, Sg.Besi and Serdang Stations)



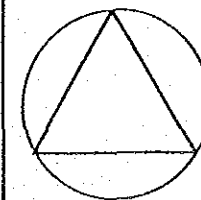
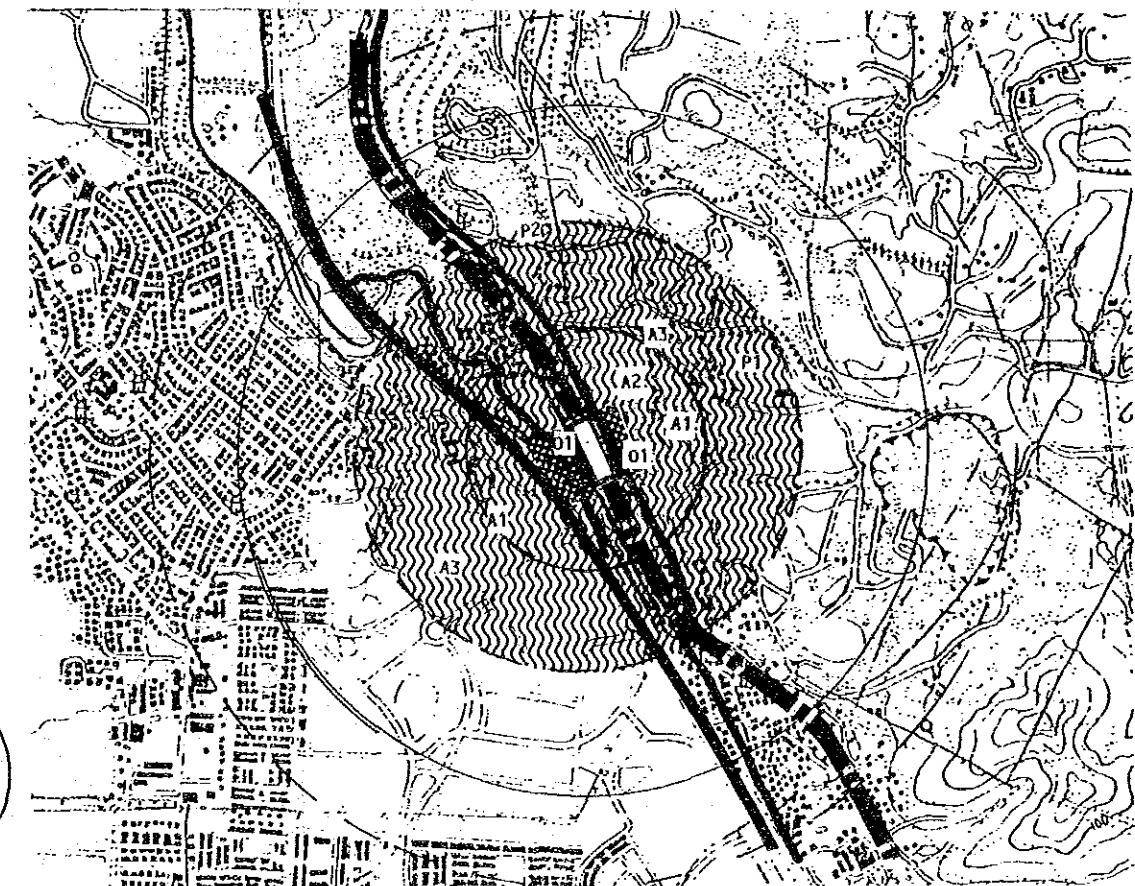
Salak South



Sg.Besi



Serdang



Scale 1:25000

Action Diagram for Case 5 Area (K.L. Station)

Station Primary Zone Secondary Zone

L1: Intermodal Linkage Actions
(including the pedestrian deck to link to the bus-terminal, monorail station planned etc.)

K.L.

A1: Construction of large-scale Pedestrian Deck/Overpass
(to link the Station to the surrounding blocks.)

O1: Redevelopment of the Station-Area and the vicinities
including the construction of large-scale Pedestrian Deck
and Plaza

To finance the construction cost of large-scale urban public spaces, the Air-Right above the railway site, river, roads or the Development Right Transfer should be utilized. *1

[The followings are the options to be introduced:

- a) mall on the deck (including walkatres) and plaza/ roof-garden
- b) hotel, convention centre, tourist centre, etc.
- c) shopping centre and shops
- d) theatre and other cultural facilities
- e) civic service centre
- f) offices
- g) railway station, monorail station, LRT station and bus-terminal
- h) parking spaces

Furthermore, the townscaping control should be important due to the existing prestigious architectures.

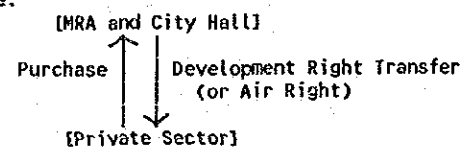
i) reservation/rehabilitation of the building

[An Integrated Redevelopment Project planned and organised by the MRA and the City Hall]

[Preparation of an Action-area Plan by City Hall]

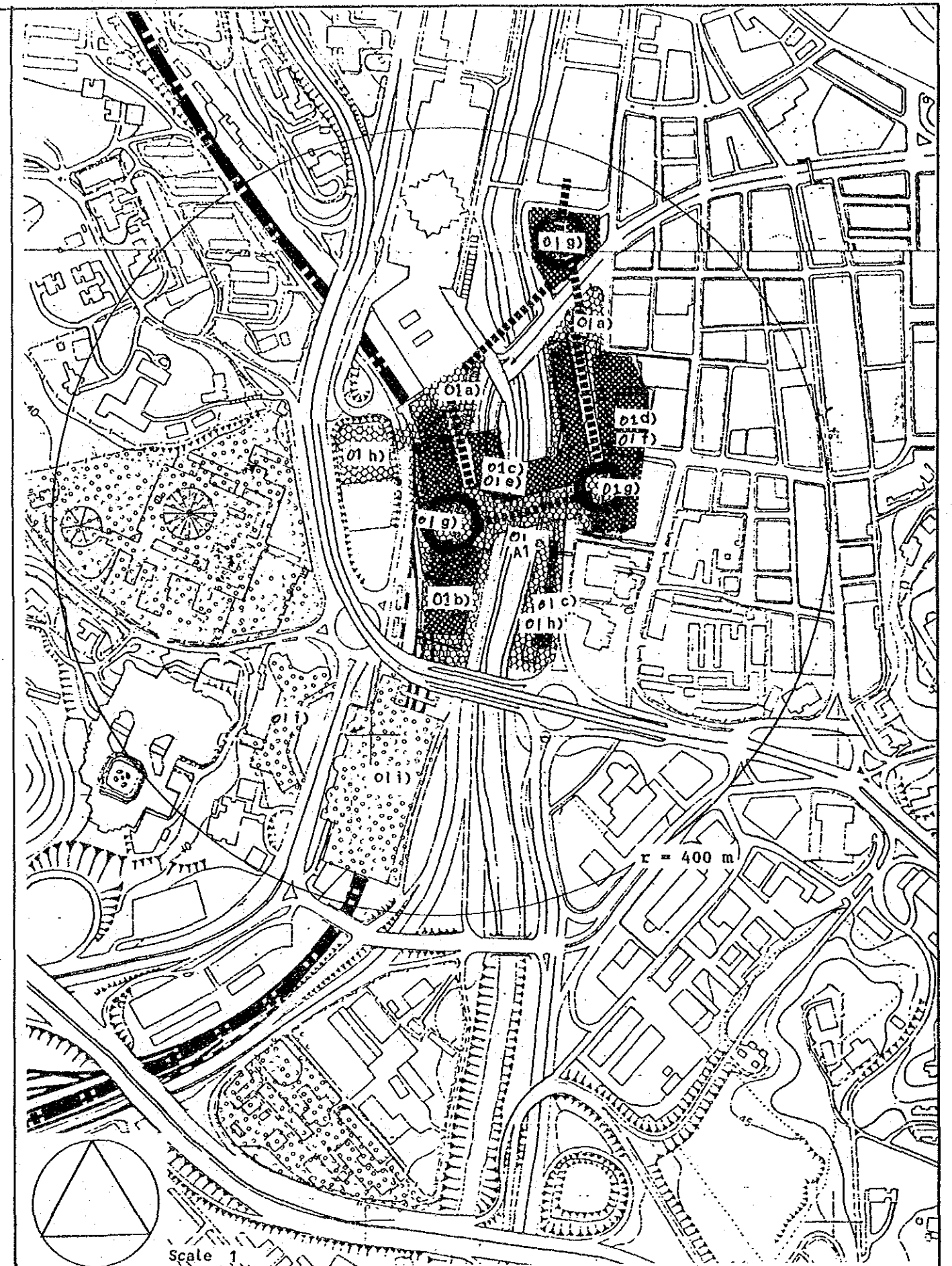
Note *1: The K.L. Structure Plan states the development right transfer as a measure for Townscaping policy.

Example:



[Note] Categories of Development Actions (as mentioned in section 13-5-2 (4))

- L: Linkage Action
- P: Planned Development Action
- []: Necessary Government Action
- A: Alternative Development Action
- O: Optional Development Action



Scale 1

Action Diagram for Case 6 (Seremban Station)

=====
 Station Primary Zone Secondary Zone
 =====

Seremban L1: Improvement of Intermodal Transfer Facilities

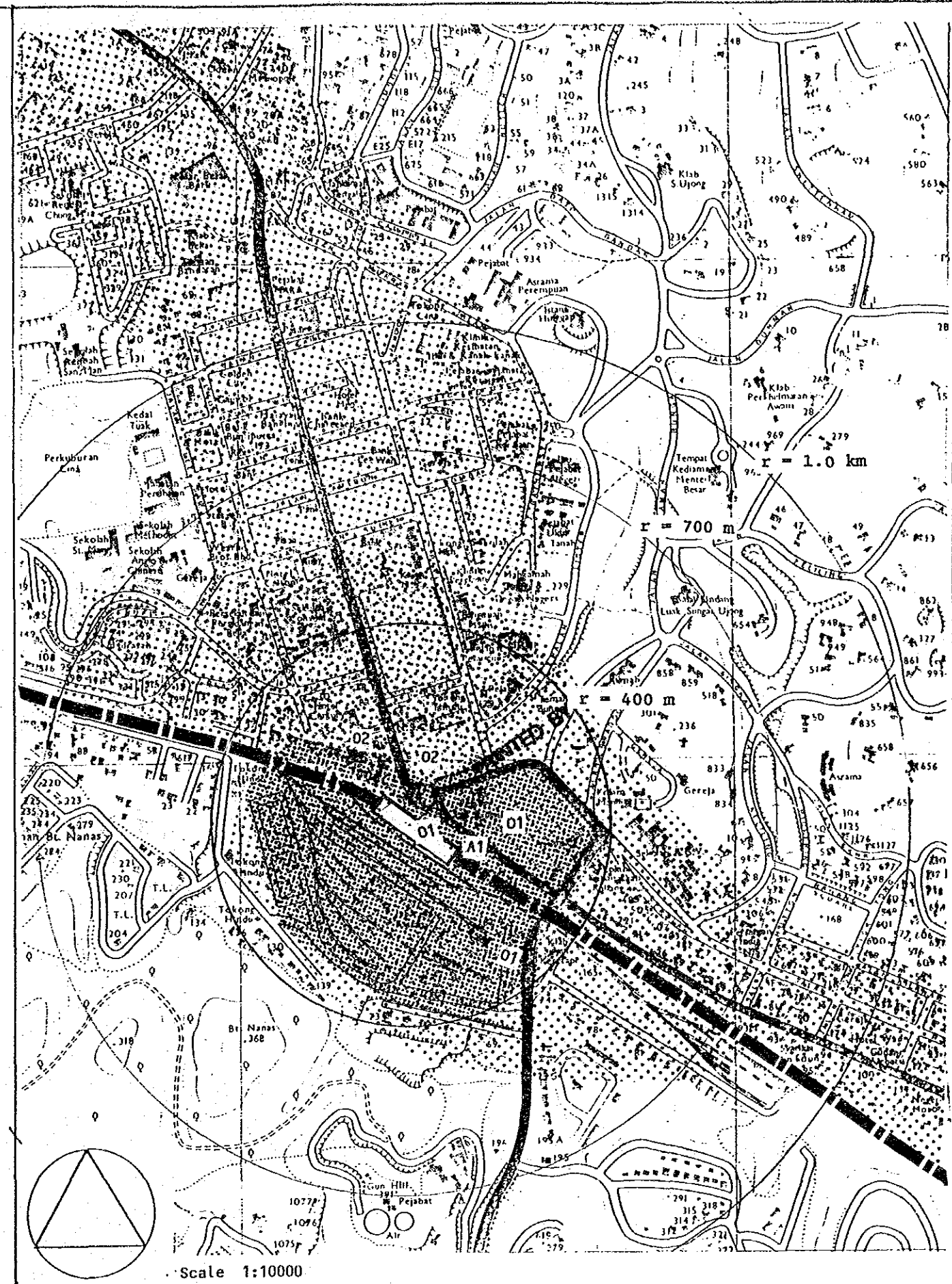
<p>A1: Development of Intermodal Transfer Square ----- (including a sub-terminal of bus form/to outside of the city)</p>	}	<p>O2: Promotion of the Town Centre Redevelopment</p>
<p>O1: Redevelopment of the MRA's sites ----- (using the space over the transportation square)</p> <p>For Seremban Station as the central station of a big city, the following facilities will be introduced:</p> <ul style="list-style-type: none"> a) shopping centre and shops b) tourist service centre, hotel c) office d) civic cultural facilities, gymnasium e) parking space 		

[A redevelopment project to be planned/organized by the MRA and the Seremban Municipality.]

[Preparation of Town Centre Development Plan by the Municipality]

[Note] Categories of Development Actions (as mentioned in section 13-5-2 (4))

- | | |
|----------------------------------|-----------------------------------|
| L: Linkage Action | A: Alternative Development Action |
| P: Planned Development Action | O: Optional Development Action |
| []: Necessary Government Action | |



Chapter 14

MANAGEMENT

Appendix 14-1-1 Items of Supervision by RBCS Regulatory Body

(1) Continuation of service:

RBCS carriers, if they are private, should be entitled to suspend or terminate the service when it does not make profits. As this would jeopardize the normal life of citizens, the regulatory body must be empowered to take the necessary steps to minimize the damage. The measures will include the governmental order to continue the service with appropriate compensation.

(2) Safety standards:

High density train operation in RBCS will require new kinds of safety regulations. Signalling is an example. The new standards of facilities and the method of their maintenance must be regulated.

(3) Zone fare and common ticketing:

Zone fare and common ticketing system would not be materialized without Government strong support. It would need even Government initiative. Decision must be made by the Government, based on serious evaluation of its merit (users' convenience) and demerit (loss of carriers' independence).

(4) Arbitration:

Cases may arise when RBCS carriers cannot agree on cost sharing in the construction of intermodal facilities, for an example. The delay in this agreement might trouble RBCS users. Government must intervene to arbitrate the issue. The arbitration should be started not only when either of the carriers applies for it, but also when a qualified third person applies for it.

(5) Procedures for cordon pricing:

Lest some extraordinary measures such as Cordon Pricing or Co-riding should become necessary, when road congestion turns serious (*), the conditions and the procedures

for their enforcement must be prepared among the relevant Authorities.

* Note: Critical situation takes place, one morning, suddenly.

Appendix 14-2-1 US Experience in Good Management --- Excerpt
from Hayes and Abernathy, Harvard Business
Review (7-8, 1980)

"A good management is such that under which;

"(For short term) the staff and employees will be active and initiative-taking in performing their duties within the existing working scheme of the organization (work rules and regulations, etc. of the company) and fully utilizing the capacity of physical tools of operation (facilities, machines, etc.). They will also be fully cost/revenue conscious under the clear-cut goals of financial outputs.

"(For middle term) The staff will be creative in economizing resources currently in want, man-power in a case, or capacity of facilities, in another. They will be active in planning to replace the man-power with machines, or to improve the work methods.

"(For long term) The managers will be aggressive, or receptive at least of the newer technology and work method which would improve their products, innovating new products and abolishing less favored products."

Appendix 14-3 RBCS Carriers' Syndicate System in Germany

In Germany, they say that RBCS carriers (most of them are publicly owned and operated), must get united in a co-front against individual car users. The cause is, they say, that it is the waste of national resources and the destruction of urban environments to further continue building roads and parkings. When united in urban areas, RBCS carriers can provide better service in respects of networking, scheduling, rating and ticketing systems. They organized in this context, the "Syndicate" (Verkehrverbunde) in five most urbanized areas.

The core notions of the Syndicate system are as follows:

- (1) RBCS carriers organize a Syndicate and entrust to it their decision-making on transport planning and fare system (Description in 14-3-1 of this Appendix)
- (2) They issue single ticket which is valid for any mode within a zone during certain hours of the day (Description in 14-3-2)
- (3) Fare revenues are allocated to the carriers according to the standard unit cost and planned traffic, not according to the performed transport (Description in 14-3-3)
- (4) Government subsidizes the Syndicates (Description in 14-3-4)

Achievements of Syndicate system are shown in 14-3-5. A simulation is tried in 14-3-6 of a Syndicate system applied in Klang Valley/Seremban RBCS.

Appendix 14-3-1 RBCS Carrier's Syndicate

(1) Functions of the Syndicate:

One can understand that the member carriers of the Syndicate form the production departments of the Integrated RBCS, while the Board of the Syndicate is the sales department of the system. The carriers retreat from planning on their own accord the route setting or train/bus scheduling or even rate/fare decision-making. These functions vital for a carrier, are entrusted to the Syndicate, as shown in appended Table 1. The organigram of a Syndicate is as shown in appended Fig. 1.

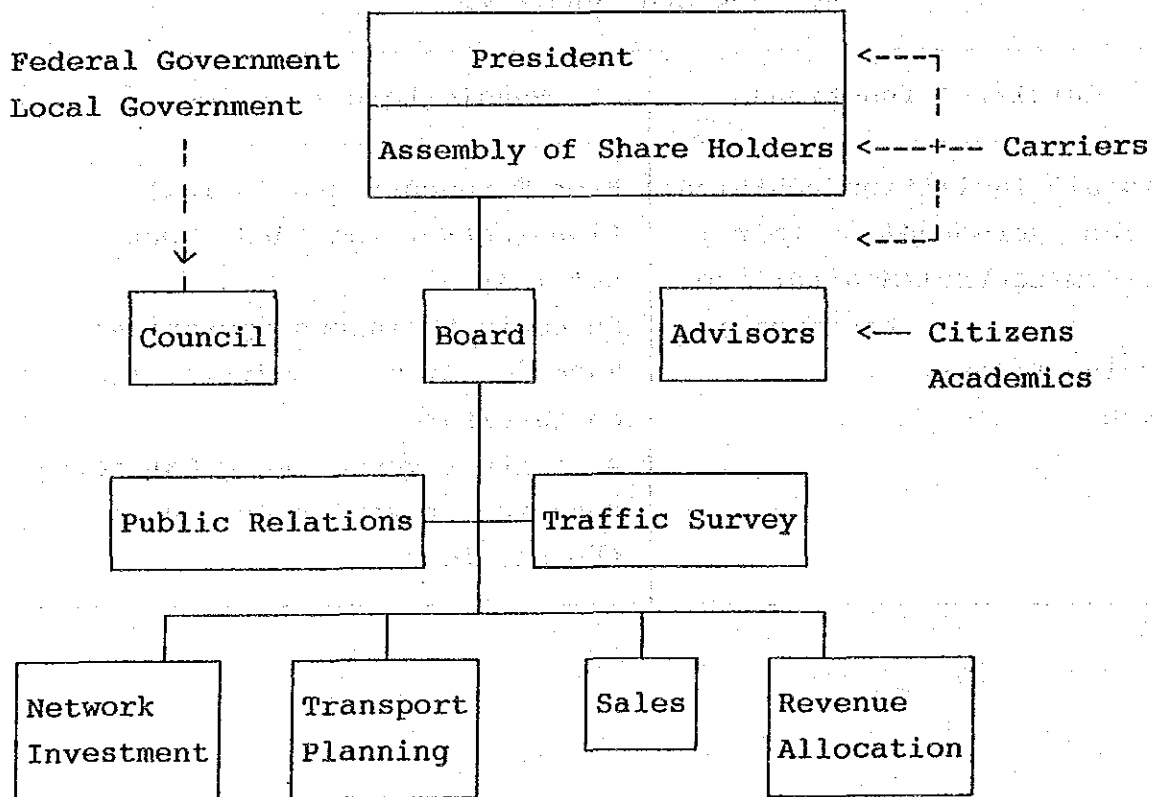
Table 1: Division of Functions between Carriers and Syndicate

Carriers' functions	Syndicate's functions
Maintain facilities/vehicles; Decide personnel affairs; Perform/Control/Monitor the transport; Receive fares; R & D.	Keep Transport statistics; Plan networking and route setting; Schedule train/bus operation; Make decision on modification on rate/fares; Allocate revenue among Carriers; Make PR activities on behalf of the carriers.

Fig. 1 Organigram of a Syndicate

Legally speaking, a Syndicate is a company (Gesellschaft mit beschränkter Haftung), in which each carrier has a share of the foundation capital. A Syndicate secretariat consists of 30~ 50 staff, of which the principal directors are seconded from the member carriers. Syndicate's annual expenses are equivalent approximately to 1% of the total fare revenue.

In the figure below, the line (---- ->) means "second representatives to"



(2) Scale of business:

The Areas of Germany where the Syndicates are organized and their scales of business are as shown in appended Table 2.

Note: In the Table, "S-Bahn" means the commuter-transport dedicated railway line of Deutsches Bundesbahn. "M-Bahn" means other DB railway lines.

Table 2: Areas with Syndicate and Their Scale of Business

Cities	Syndic. organized in	Coverage		Route kilometrage (number of routes)				
		Area km ²	Popul'n X1000	S-Bahn & M-Bahn km	Metro km	Street-car km	Bus km	Others km *
Hamburg	1965	3000	2410	250(9)	139(9)	—	2654(183)	46(10)
Rhein/Ruhr	1978	5026	7086	1343(36)	80(5)	821(57)	9391(588)	13(1)
Frankfurt	1973	2182	2424	405(5)	60(16)	157(16)	865(64)	—
Stutgardt	1977	1293	2102	240(12)	—	172(12)	620(70)	—
Munchen	1971	5000	2410	482(9)	59(5)	143(13)	3423(156)	—

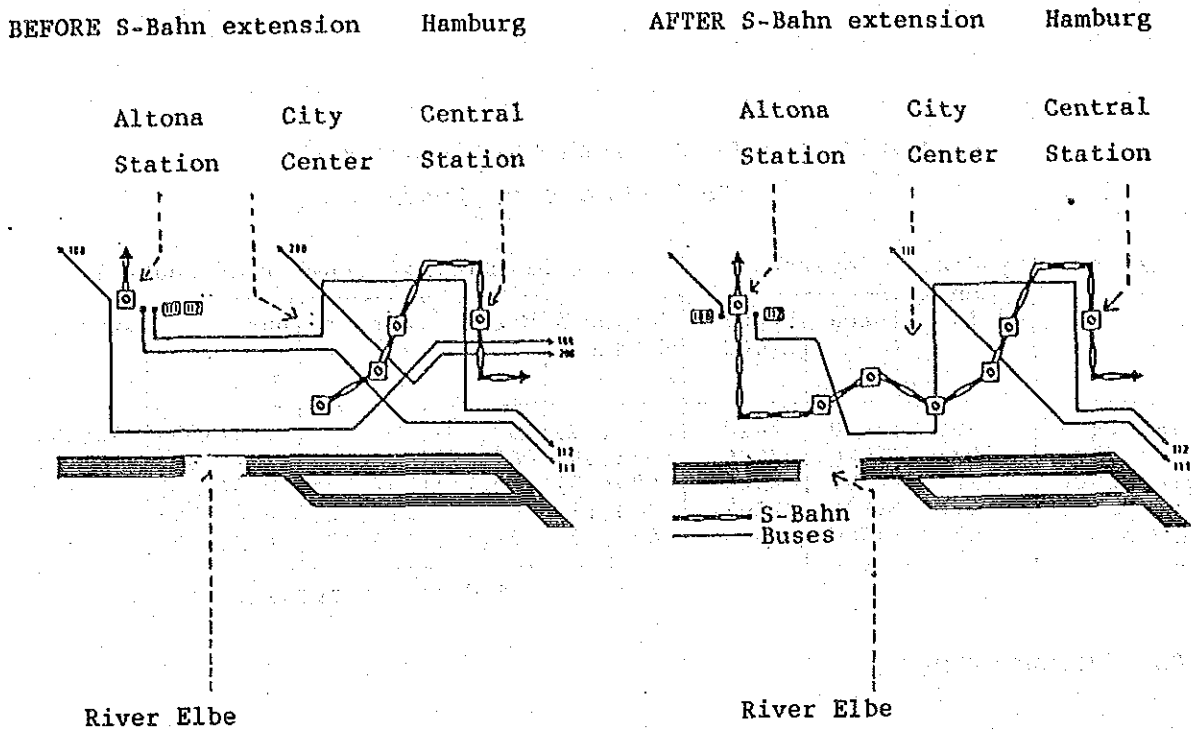
* Note : Menorail, ferry, etc.

(3) Networking:

RBCS network must be so designed as to maximize the total ridership of the Syndicate carriers. The General Directives of the Syndicate stipulate that; 1) Transfers among the existing routes and modes must be improved to the fullest degree. 2) When two routes are parallel, the unnecessary one should be abolished and reset at another place, in disregard of the ownership of the route. 3) Bus routes should not be planned to get into city centres. They should be considered, in principle, as the feeder lines to the track-typed mass transit systems.

Appended Fig. 2 shows an example of bus route abolition which took place in order to avoid paralleling with newly extended S-Bahn route.

Fig. 2: Bus Route Abolition to Avoid Paralleling with Newly Extended S-Bahn Route



(4) Train/bus scheduling:

Syndicate issues directives to member carriers indicating the required transport capacity of each route of the network, in terms of the number of passengers per hour at peak and off-peak. Carriers plan and make actual operation schedules according to the directives. To be noted is the priority given to the track-typed carriers. First, they formulate the train operation diagrams. Then, bus carriers plan their bus schedules so that the bus transfers could best be provided to the trains.

(5) Ridership encouragement:

Based on surveys, Syndicate issues directives the special fare reductions to attract specific customers. Carriers must observe them. Examples are given below:

- "Senior Pass" for aged people during off-peak hours
(Hamburg Synd.)

- Whole-Day Pass for Zone-II after 9 AM. (Hamburg Synd.)
- Year-long Pass for passengers who reserved for tickets valid year long (Hamburg Synd.)
- Off-peak discount for all passengers (Frankfurt Synd.)

(6) Appeal to individual car users:

Syndicate makes PR activities such as for impressing auto commuters with data comparing the costs keeping a car (even specifying the types of the cars; Audi 80, Volkswagen-Polo, MB200 ...) with the commuter ticket price (Rhein-Ruhr Synd.)

(7) Information services:

Syndicate makes PR activities on behalf of the member carriers.

Appendix 14-3-2 Common Fare/Ticketing and Zoning

(1) Zone fare/common ticketing:

Syndicate determines a unified fare/ticketing system which apply common to all the syndicated carriers. There, within a zone, a ticket is valid for all the carriers. The fare is the same, namely, the fare for 1 km ride on Bus + 3 km ride on MRA, is identical with the fare for 2 km ride on Bus + 2 km ride on LRT, or with 4 km ride on Bus. Tickets are issued on board any mode, at any station. Season tickets can be made valid by putting bank stamps on the ticket issued by vending machine, too. They are supposed to be checked by conductors on board (often on platforms, too), not at the wickets by ticket controllers. Conductors are allowed to impose DM 40 fine to a passenger with irregular ticket or without ticket.

(2) Zoning:

They devised two types of zoning; Mono-core type and Multi-Core type:

1) Mono-core zone system;

Imagine an area like a Klang Valley which has KL but no Shah Alam or, Petaling Jaya. KL is considered as the "core" of the area. With this as a unique center, three circles are considered;

Zone-I (smaller circle):

A circle of 15~20 km diameter

Zone-II (larger circle):

A circle of 30~40 km diameter

Zone-III (largest circle):

Syndicate area

Refer to appended Fig. 3 (Frankfurt Syndicate Zoning for Ordinary Ticketing) for zoning, and appended Fig. 4 (Frankfurt Railway (S-Bahn) and Metro (U-Bahn) Network) for the real network.

Within Zone-I, a ticket is valid for any one-directioned ride on whatever modes. But the followings are the exceptions; a) No round trip, b) No ride after 40~60 minutes from the time when the passenger got on board *. The same with Zone-II. The fare is higher. The permitted riding hours are longer.

Within Zone-III, where only S-Bahn and feeder-bus exist, the kilometer-wise (Hamburg Synd.) or zone-wise (Other Synd.) rating and ticketing system are applied.

* Note: Passengers put their tickets into a machine equipped on board when they get aboard.

Above is the description for the ordinary passengers. As for the commuting season ticket users, zoning is made with 7~12 circles. Refer to appended Fig. 5 for Season-Ticket.

For the sake of reference, an example of fare list is shown in appended Table 3.

Fig. 3: Frankfurt Syndidate Zoning for Ordinary Ticketing

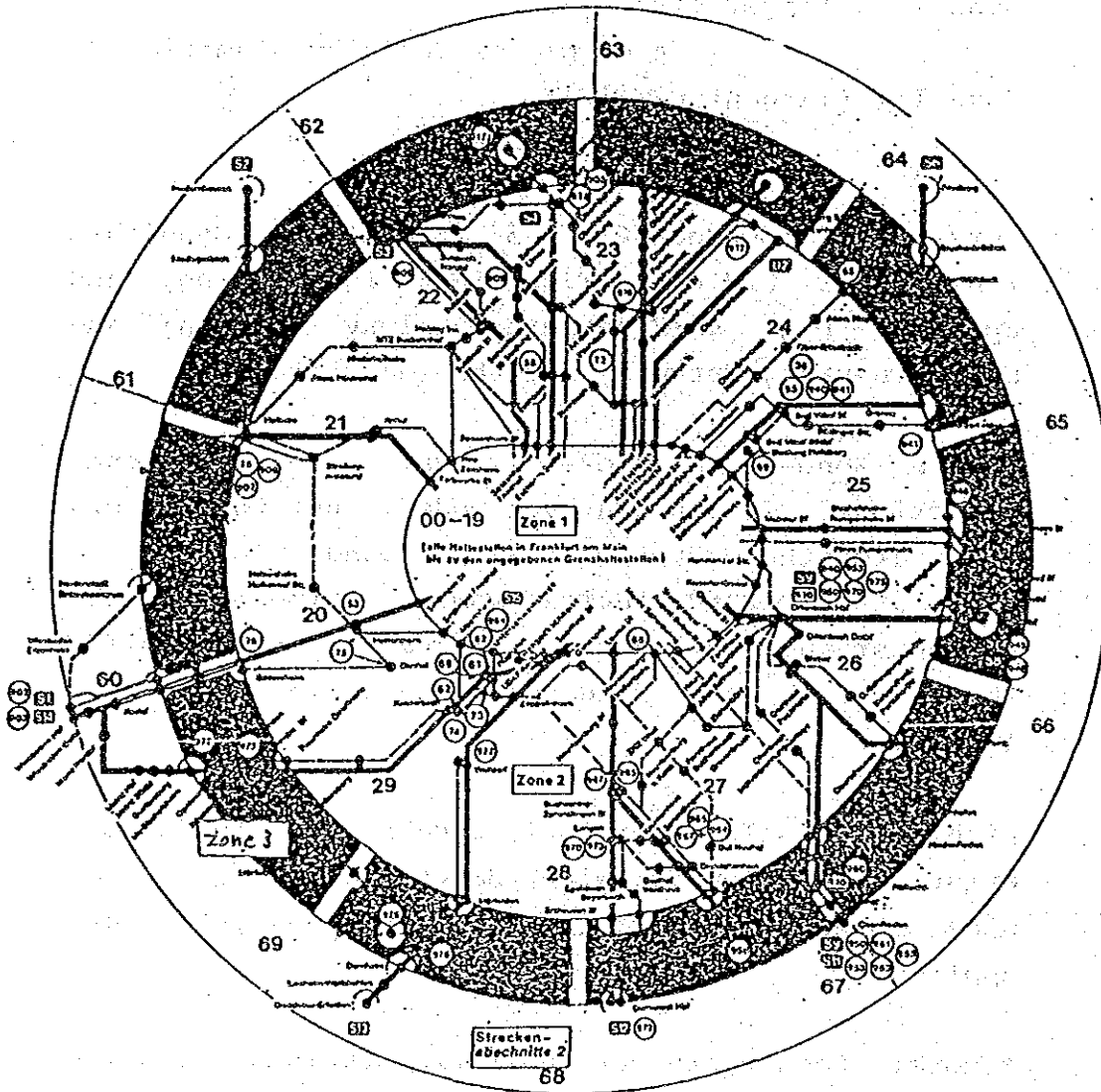


Fig. 4: Frankfurt Railway (S-Bahn) and Metro (U-Bahn) Network

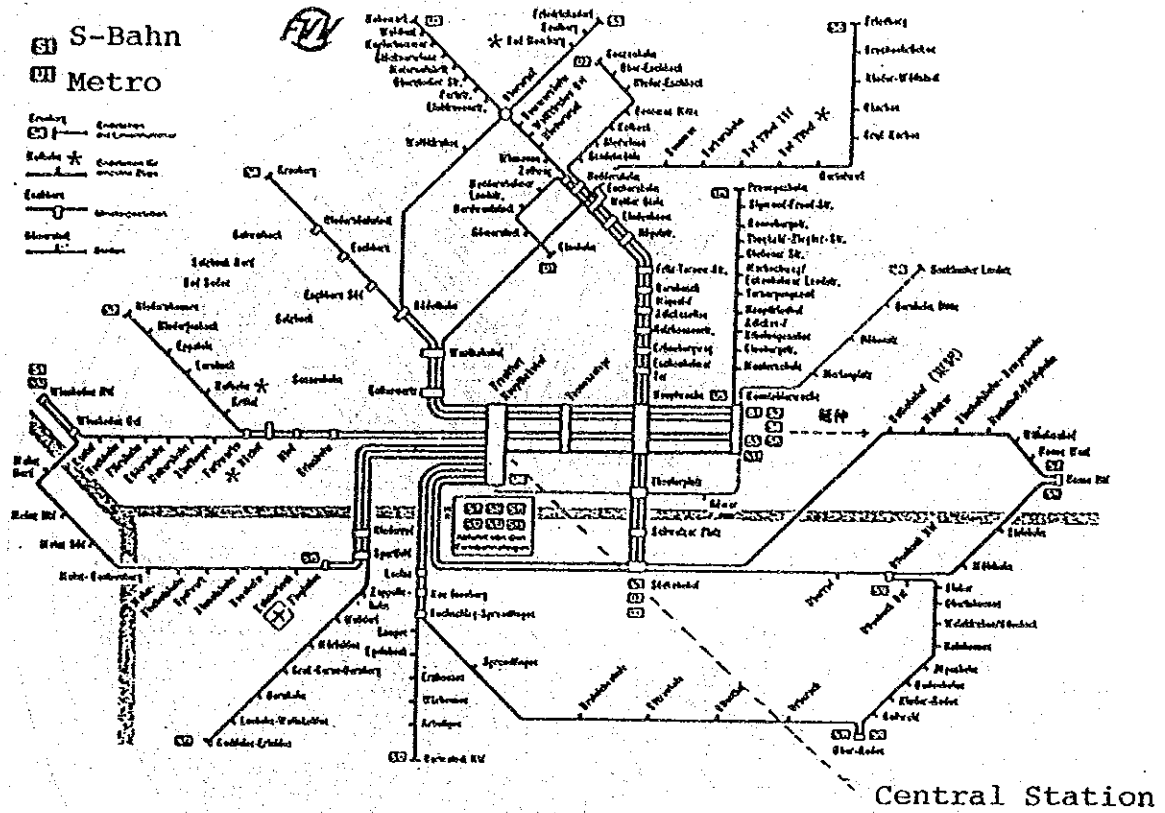
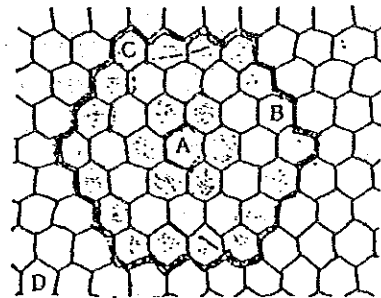


Table 3: Example of Fare List
(Rhein-Ruhr Synd., Jan. 1986)

Unit:DM	Area 1	Area 2	Area 3	Area 4	Area 5	Area R	Area R 1	Area R 2	Area R 3	Area R 4
Adult (Ad.)	2.0	3.0	4.3	6.2	8.6	10.0	13.0	15.0	18.0	22.0
Children(Ch.)	1.3	1.8	2.8	2.8	2.8	5.0	6.5	7.5	9.0	11.0
Coupon (Ad.)	1.6	2.4	x	x	x	x	x	x	x	x
(Ch.)	1.05	1.45	x	x	x	x	x	x	x	x
One-Day Ride	8.5	8.5	x	x	x	x	x	x	x	x
Weekly	15.5	24.0	30.0	40.5	48.0	x	x	x	x	x
Monthly	62.0	96.0	116.0	152.0	175.0	--- Season tickets				
Reserved	52.5	80.0	97.0	127.0	146.0	x	x	x	x	x
Junior(~14yrs)	44.0	63.0	87.0	114.0	131.0] Policy fare reduction				
Student	50.0	75.5	87.0	114.0	131.0	(Monthly) x x x				
Seniors	43.0	63.0	73.0	x	x	x	x	x	x	x

2) Multi-core zone system;

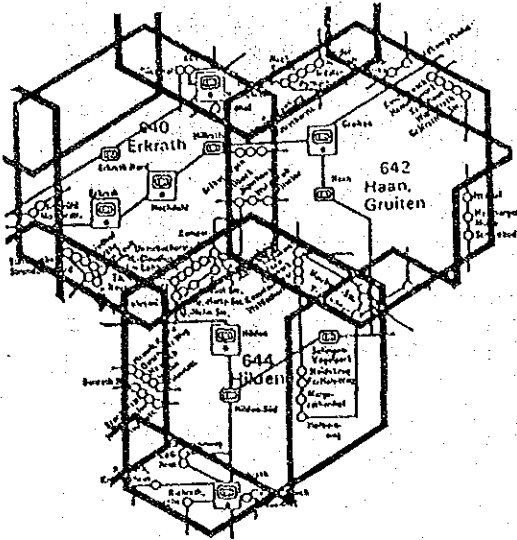
The area is divided into hexagons, with the "radius" each of about 2.5 km, looking like a steel fence-net ("Fuelbecker Model"). Each hexagon has a core town.



This zoning is applied in Rhein-Ruhr area, where there are 16 industrial towns and 5 counties, and the traffic flows are not necessarily centripetal. Imagine a Klang Valley area, with KL and other well developed "Growth Centre" cities.

Within a hexagonal zone, a ticket is valid for any one-directioned ride. When the trip covers two hexagons, another type of ticket is issued. This ticket is valid for any one-directioned ride within the two combined hexagons. The fare is higher according to the number of hexagons. Refer to appended Fig. 6 (Rhein-Ruhr Syndicate Zoning for Ordinary Ticketing) for zoning, and appended Fig. 7 (Rhein-Ruhr Railway (S-Bahn) and Metro (U-Bahn) Network) for real network.

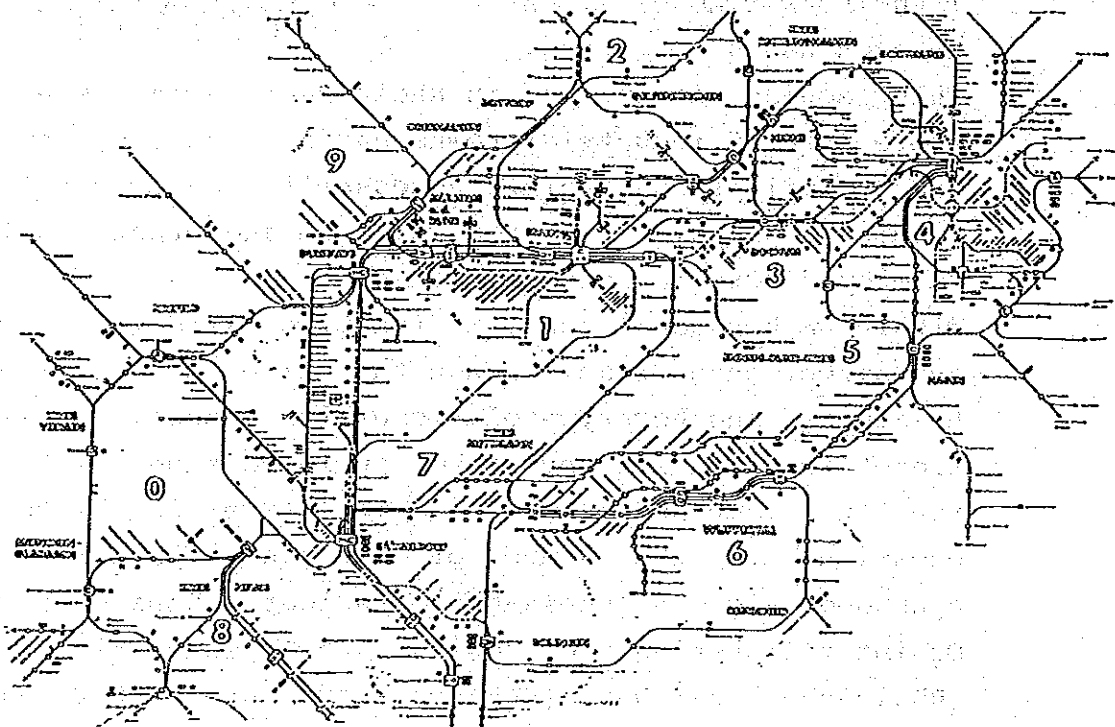
Fig. 6: Rhein-Rhur Syndicate Zoning for Ordinary Ticketing



Hexagons are duplicated at edges as observed.

This is the precaution that a passenger whose trip is short but covers two hexagons may not have to pay two-zone fare.

Fig. 7: Rhein-Rhur Railway (S-Bahn) and Metro (U-Bahn) and Monorail (Wuppertal) Network



Appendix 14-3-3 Revenue Allocation Among the Carriers

(1) German solution:

The revenue is allocated among the carriers, not according to the actual traffic volume each carrier has carried (certified by the collected ticket records), but according to the planned traffic capacity which has been assigned to each carrier.

1) The payment each carrier receives;

All the fare revenues are paid into Syndicate's account with ticket issuing records. Syndicate deducts from it the Syndicate's expenses and the sum to be paid to the Partial Participant (*). The rest is allocated among the carriers according to the following method;

Pi: The payment a Carrier i receives from the Syndicate.

$$P_i = R_i \left[\begin{array}{l} \text{Revenue assumed} \\ \text{for Carrier } i \end{array} \right] \times \frac{\text{Total actual fare revenue}}{E R_i (\text{Total Assumed Revenues}) (**)}$$

$$R_i = C_i \left[\begin{array}{l} \text{Cost assumed} \\ \text{for Carrier } i \end{array} \right] \times \frac{R_i \text{ in standard fiscal year (***)}}{C_i \text{ in standard fiscal year (***)}}$$

$$C_i = E \left[\begin{array}{l} \text{Traffic capacity} \\ \text{or work volume} \\ \text{assigned for} \\ \text{Carrier } i \end{array} \right] \times \begin{array}{l} \text{Standard unit cost} \\ \text{(Syndicate's average cost} \\ \text{per traffic capacity or per} \\ \text{work volume)} \end{array}$$

----- Refer to description
14-3-1(4)

* Note 1: "Partial Participant" is a non-regular member who puts only part of its network under the Syndicate's control

** Note 2: The difference between the numerator and nominator stands for the difference between the transport volume planned and actually performed.

*** Note 3: "Standard year" is the year precedent to the year of rate modification, generally speaking.

(2) Standard unit costs:

Standard unit cost is calculated as follows;

Refer also to appended Table 4 (Example of Standard Cost Calculation)

1) Uniformed cost itemization;

All the member companies' actual costs are reshuffled and classified into the following groups:

- Route-kilometer-related costs
(eg. Maintenance cost of infrastructure)
- Number-of-seats-related costs
(eg. Depreciation cost of vehicles)
- Seat-kilometer-related costs
(eg. Personnel cost)
- Train-kilometre-related costs
(eg. Motive power)

2) Mode division;

Each of them above is divided into each mode which the company runs (in Germany a railway or Metro runs bus routes also).

3) Standard unit cost;

The said route-kilometer-related costs, number-of-seats-related costs, etc., are totaled, mode by mode. Each mode-wise total is divided by mode-wise route-kilometers, by number of seats ... etc. The results are the mode-wise standard unit costs, per traffic capacity or per work volume.

(3) Impact of standard unit costs system on cost reduction:

Refer to Appendix 14-3-5(2) for the impact of the standard unit cost system on cost reduction efforts on the part of the RBCS carriers.

Table 4: Example of Standard Cost Calculation
 (All the figures are for explanatory purpose)

Actual costs items (Examples)	Reshuffled so as to be related to	Figures without indication of unit show		
		S-Bahn	Metro	Bus
Carrier A				
Infrastructure				⑥
Maintenance 10	Route-km 5 ①	-	5 ⑤	10km ② - 10km
Vehicle Depreciation	Number of seats 5 ⑦	-	5	1,000st ⑧ - 1,000st
preciation 10	Seat-km 5	-	5	10,000km - 10,000km
Personnel 10	Train-km 5	-	5	100km - 100km
Motive Power 10				
Total 40		20	- 20	
Carrier B				
Infra.Maint. 20	Route-km - 10 ③	10 ⑤	-	10km ④ 10km
Vehicle Depreciation	Number of seats - 10	10	-	2,000st 1,000s
preciation 20	Seat-km - 10	10	-	20,000km 10,000km
Personnel 20	Train-km - 10	10	-	200km 100km
Motiv power 20				
Total 80		- 40	40	
Carrier C				
Infra.Maint 10	Route-km - -	10 ⑤	-	- - 60km
Vehicle Depreciation	Number of seats - -	10	-	- - 5,000st
preciation 10	Seat-km - -	20	-	- - 50,000km
Personnel 20	Train-km - -	20	-	- - 500km
Motive Power 20				
Total 60		- -	60	

S-Bahn Metro Bus

Standard Unit: Route-km-related ① + ② = 0.5 ③ + ④ = 1.0 ⑤ + ⑥ = 0.4

Costs Number-of-Seat-related ⑦ + ⑧ = 0.005etc.

Seat-km-related

Train-km-related

To be noted is that the payment thus calculated covers no more than 40~60% of the actual cost of each carrier. Refer to appended Table 5. (Also to be noted is that this situation had been the same before Syndicate was introduced.) The rest is expected to be compensated/granted by the federal and local governments.

Table 5: Revenue / Expenses of Syndicate Carriers
(in million DM, 1984)

Syndicates	Total Revenues of Syndicate Carriers including Compens- tation * A	Total Expenses of Carriers B	Total Loss of Carriers A-B	Rates A/B
Hamburg	497 *	-	-	-
München	487	836	349	58.3
Frankfurt	287	663	385	41.9
Stuttgart	227	483	256	47.0
Rhein-Ruhr	1143	2268	1125	50.4

* "Compensation": Refer to description 14-1-3(2)~(4).

Figures of Hamburg does not include the Compensation.

Appendix 14-3-4 Government Assistance

The carriers are not supposed to be financially independent because of their public nature; In case when the carriers' costs are still not fully covered, despite all the detaxations and compensations (Refer to 14-1-3 of the Report), the remaining deficit is offset by the grants of the federal government in case of DB, and by local governments (State, or Municipality) in case of other carriers. The grants given to Hamburg Synd., Frankfurt Synd. and DB are as shown in appended Tables 6 and 7.

Table 6: Grants Accorded by Municipality and Federal Government

Unit: DM mil	Granted by	1980	1981	1982	1983	1984	1985
Hamburg Synd	Municipality of Munchen	113	131	156	149	167	364
	Federal Gov't	161	174	181	181	181	
Frankfurt Synd	Municipality of Frankfurt	402	395	189	187	186	184
	Federal Gov't			225	196	199	173

Table 7: Grant to Offset Deficit

Federal government compensates the sum equivalent to the percentages given in the middle column of the Table in accordance with the Syndicate Payment (%). This is virtually the grant.

Syndicate Payment of Cost %	26	27	28	29	30	31	32	33	34
Compensation %	54	53	53	54	55	56	57	57	56
Total coverage %	80	80	81	83	85	87	89	90	90

Appendix 14-3-5: Achievements

(1) Ridership:

Appended Figs. 8 and 9 compare the trends of ridership and revenue in the cities where carriers are syndicated and the trends of the nation-wide total of the public short distance carriers. The indices of the syndicated areas denote a continued upward trend, always superior to that of the nation-wide average.

Season-ticket users have increased more than 10 times since these 15 years. One can say that the Syndicate system has been successful.

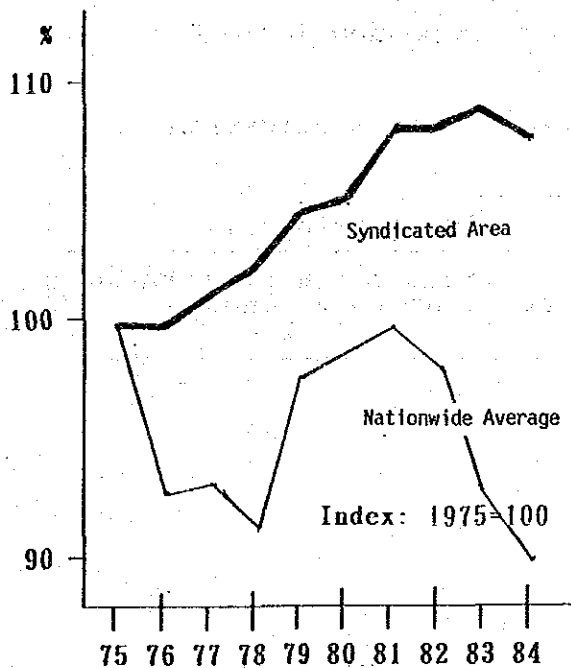


Fig. 8: Passenger carried

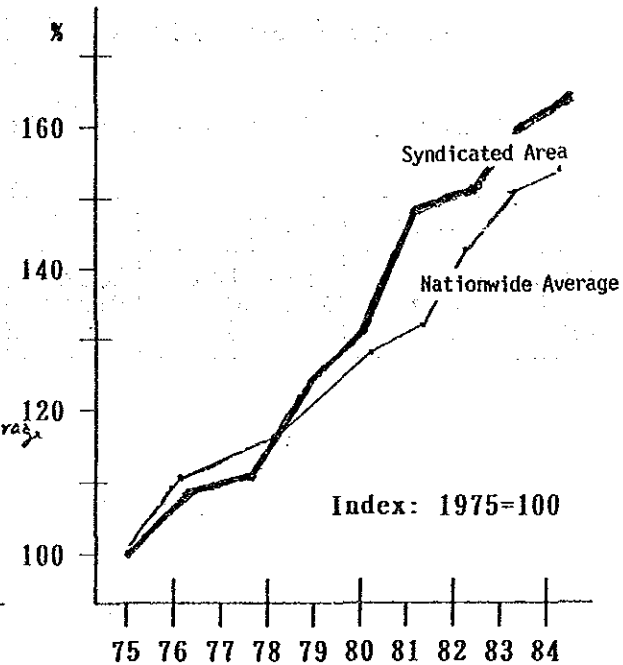


Fig. 9: Revenue

(2) Cost reduction:

According to Hamburg Syndicate, comparing the periods before and after the Syndication, 500 ticket controllers have been decreased by the automatization of ticket issuing/collecting, a million man-hours of bus conductor's work were saved by introduction of bus without conductor. Also it was reported that additional

fares had been received from the ride-in passengers 4.2 million times per month before the Syndication. They decreased to 0.35 million.

Carriers are paid by the Syndicate based on the fixed standard costs of a certain past year, in disregard of the cost reduction achieved thereafter by a carrier. The payment is therefore favorable for this carrier and the system works as a whole to encourage all carriers' cost retailment efforts.

(3) Fare-level before and after Syndication:

Comparing the fare levels before and after the Syndication, the fare became higher for shorter rides, lower for longer rides. Refer to appended Table 8.

Table 8: Fare Level Before and After Syndication

1980("After")		1979("Before")	
Fare for 1 Zone ride DM 1.2	Fare for 2 Zones 2.6	Fare for First ride 1.5	Fare for a ride equiva- lent to 2 zones 2.0

Appendix 14-3-6 A Simulation of Syndicate System Applied in Klang Valley/Seremban

Let us see what would happen to Mr X in the case mentioned in Fig. 10, if the Syndicate System is applied in Klang Valley/Seremban area: Supposing that the bus company (A-B) does not belong to the "KL Syndicate", and that his trip time will be over an hour, the result is as shown below;

	Before Syndication	After Syndication
Mr X has to buy:	5 tickets	4 tickets
Ticket checking:	7 times	5 times(theoretically)

Note: Mr X is rather an exceptional traveller. In real application, the number of tickets issued would be less.

A-B; On request of Mr X, the bus conductor said that he could issue ticket only to B. (This bus company stays out of the Syndicate)

B-C; At B, Mr X got a common ticket to E, by an automatic vending machine. He got it printed 8:00 AM when he got on train. Aboard the train, a conductor checked it.

C-D; At C, Mr X changed to Monorail. The checking-machine at the entrance wicket checked his ticket, let him pass.

D-C; At D, the machine rejected him (revolving rod did not turn). It was because Mr X's trip was not one-directioned. He bought a new ticket for (D-C)

C-E; At C, Mr X changed to LRT with the same ticket. Enroute, at E', before he was checked, he got aware that it was 9:00 AM. He bought from the conductor a new ticket for 1 zone (E'-E). He knew the conductor might otherwise claim a fine of M\$ 80.

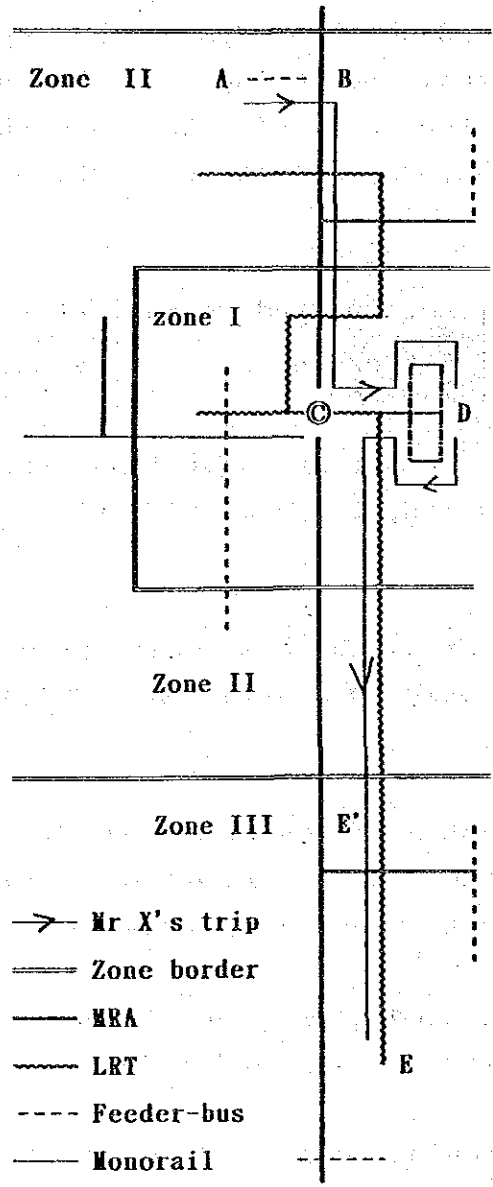


Fig. 10 Transfer of Modes

Appendix 14-4-1 Kinds and Scales of Off-rail Business
(unit: Million yen)

Eastern Japan Passenger Railways' Off-Rail Business Group
(Apr. 1989 ~ Mar. 1990)

Table 1

Kind of business	Number of companies	Revenue Expense (¥ million)	Number of employees (person)	JR East. capital investment (¥ million)	Total floor (x1000m)
Shopping centers	38	74,274 69,165	2357	10,053	968.5
Hotels	8	36,866 36,034	2006	6,490	348.3
Restaurants, etc.	4	112,006 111,994	7190	2,537	-
Sports/Leisure	6	519 1,014	134	412	0.8
Realty agents	2	13,554 13,400	589	1,415	46.5
Advertisement agencies	2	51,509 49,100	821	254	-
Carriers (Bus 2, Trucking 1, LRT 1)	4	28,381 28,087	2035	7,100	-
Telecom/Information Processing	12	101,868 89,603	2702	3,421	-
Travel agencies	2	233,474 221,646	5736	1,821	-
Renta-car	1	2,096 1,958	16	150	-
Constructors	5	314,906 306,418	2384	1,283	-
Others	7	8,324 8,161	183	5,055	-
Total	92	977,572 936,376	-	39,991	1,364

Railway transport revenue 1,672,800 (Approx.) million yen

* Eastern Japan Passenger Railway is the largest of the privatized JR Group
** Kinki Nihon Railway is one of the largest private railways.

Table 2: Kinki Nihon Railways' (**) Off-Rail Business Group
(Apr. 1979 ~ Mar. 1980)

Kind of business	Number of companies	Revenue (¥ million)	Number of employees (person)	Foundation capital (¥ million)
Shopping centers	16	316,900	7,540	10,300
Hotels	23	57,000	4,690	10,700
Restaurants, etc.	10	45,000	3,430	1,000
Sports/Leisure	13	15,400	1,490	2,500
Realty agent	10	62,900	629	6,200
Carriers (Air freight 1, Bus 16, Shipping 6, Taxi 27, Trucking 5)	55	228,500	28,880	19,400
Renta-car	1			
Travel agencies	5	254,800	5,300	2,300
Constructors	20	311,600	8,180	7,000
Auto sales agents	13	58,500	1,720	900
Total	166	1,496,100	62,370	114,100

Railway transport revenue 145,800 11,240

Appendix 14-4-2: A Schematic Short History of Off-Rail Business;

- Changes have been remarkable worldwide in the attitude of the railway management toward the off-rail business. In the past, the off-rail business used to be considered as an activity of secondary importance, in most cases concessioned to subsidiary companies. Providing the passengers with the amenities and services such as catering, luggage carrying, etc. was the principal part of the business. Leasing followed it. When part of the railway property happened to be non-utilized, it was leased to a limited number of concessionaires on their requests (not on the railway's initiative). In those days, new investment, dedicated for developing the off-rail business was hardly conceivable.

- It was when the railway's monopoly in transportation was found declining, that the diversification of railway's activities began. It coincided with the time when the waves of urbanization began to involve the railway infrastructures.

- Cases have often been as the following: When the redevelopment of a large city so demanded, the railway moved the goods terminal located in the city center to the suburbs. It was completely modernized at the expense of the owners of the new business complex which took over the place. The passenger terminal situated at the city center was rebuilt into a highrise enhousing a hotel and a shopping complex. The railway became an important share holder of the hotel/shopping complex. When the roads crossing with railway tracks had to be widened in the city center, the tracks were elevated. Major cost was shouldered by the road authority. The space beneath the elevated track was leased by the railway for shops, parking lots, etc.

- To achieve this diversification, it was considered the most efficient to set up an independent company outside the proper railway administration and let it run each wing of diversified business. The railway entrusted the management of these new businesses to some railway affiliated companies, investing major part of their foundation capitals

- The companies are now an administrator of the Railway's property, a realty agent, a developer, an owner of the shops, parking lots, etc. Off-rail business became to bear various aspects as the railway activities get diversified. The railway began to make investment on each wing of these businesses ---

Appendix 14-4-3: Detailed Description of Core Notion of
Private Approach (B)

(1) Endowment:

Endow the RBCS carriers with sufficient assets, particularly land space, at its foundation stage, on condition that they would be disentitled of these assets if they do not use the assets for policy-wise specified projects or business. Nation's assets should not be "reserved" but actively utilized.

(2) Free hand:

Give them free hand in exploiting the assets. In other words, the above-mentioned specification of project/business should be made in broad terms. As to the results of the land use' effectiveness, carriers are responsible to their Boards, not to the Government. The government control will be made through its Board member representing the government according to the shares.

(3) Joint venture:

Encourage co-investment by public/private financial institutions and developers through joint-venture with MRA for promoting the projects and the business. MRA should hold in it an important position by way of the land ownership of the site. For this MRA should pay every effort to have more land space around the station. Once in its hand, MRA will keep hold of it, even after the Joint Venture project is over, without splitting the land ownership into pieces. The land and properties should not be sold, but leased.

(4) Sub-assignment:

The carriers may entrust the project/business execution to their subsidiary companies. The carriers should be dominant investors of their foundation capital. The companies may further farm out the project/business execution to other professionals.

Appendix 14-4-4: Main Jobs of Pilot Companies

(1) Execution of diversification department orders:

Assist the Department in preparing for feeder bus service and amenity provision, and in execution of other directives of the Diversification Department.

(2) Administration of acquired land:

Administer the land spaces for future use which have been acquired according to 14-4-3(1) of the Report, putting them under provisional exploitation such as parking lots, storage, sites for sport events/exhibitions, etc. earning what little they could to partly offset the acquisition cost and their personnel costs.

(3) Accumulating backlog know-hows:

Any business is a complex of accumulated know-hows and experiences. It takes years to master them. The simplest way of off-rail business is to lease the railway properties and let the outsider experts do the job. Railway's off-rail business should come out of this stage as early as possible. Railwaymen should not stay within the Railway. Each of the pilot firms must be instructed to learn and accumulate the know-hows in a specified business field and transfer them to the next generation of managers.

Appendix 14-4-5: Information Service at Stations of
Pilot Companies

During the initial period of RBCS, when the passengers are not yet well accustomed, the service to give them sufficient informations on change of trains, train/bus connecting timetables, etc. is important. This information service will also be entrusted to the feeder service.

Appendix 14-4-6 Reference for Viability Checking of
MRA-Parking Lot

As shown below, parking lots can be considered as viable at M\$2 per car-day. (MRA parking fare at Seremban is M\$1 per hour, more than M\$10/car-day). The fare cannot be higher: According to the Car Owner Survey, most of the individual car users pay little for parking, probably because their employers provide the facilities.

The parking facilities are supposed to be reserved for exclusive use of the commuters to K.L. areas. Their railway fare can be added to the revenue. It is supposed that; no train speed improvement works is made, no railway marginal cost will be needed for the additional passengers. The railway revenue increase is calculated as follows.

Annual railway fare revenue increase	= cars parked per day	Average coridership (1.2 pers.)	Average railway trip length (15.0 km)	Railway fare per.km (M\$ 0.044)
	+ First ride (M\$ 0.155)	Morning & Evening (2)	x 365 days	= cars parked per day x M\$ 710 per day

Investment cost

- a. Space required per car, including guiding paths = 25 m² x number of parked car/day
- b. Land purchase = M\$ 90/m² x space
- c. Level-/Gravel-/Roping = M\$ 104/m² x space
- d. Fence-net length = M\$ 400/m x 4 x $\sqrt{\text{space (m}^2\text{)}}$
- e. Automatic parking device = M\$ 40,000 x number of parked car/day x 1/100
- f. Office = (included in the station cost) 0

Cars Parked:	100 cars	200 cars	300 cars	400 cars
b.	225	450	675	900
c.	260	520	780	1,040
d.	18	25	31	36
e.	40	80	120	160
(M\$ 1,000)	543	1,075	1,606	2,136

A. Running cost

- f. Bank interest = $(b+c+d+e) \times 0.08/\text{year}$
 g. Maintenance = $(d + e) \times 0.10/\text{year}$
 h. Depreciation = $e \times 0.10/\text{year}$
 i. Miscellaneous (power, personnel) = M\$ 100/car.year

Cars Parked:	100 cars	200 cars	300 cars	400 cars
f.	43	86	129	172
g.	6	11	15	20
h.	4	8	12	16
i.	10	20	30	40
Total (M\$ 1,000)	63	125	186	248

B. Revenue

Parking fare revenue =	73	146	219	292
Additional Rwy fare revenue =	71	142	213	284
Total (M\$ 1,000)	144	288	432	576

C. Reserve for redemption and taxes

(M\$ 1,000)	81	163	246	328
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Appendix 14-4-7 Railway Management and Land Development

Mr. N. Goto, President of Tokyu Electric Railway Co.,

"It was in 1959 that our plan for developing the Tama New Towns and building a commuter railway was materialized. In those days, a kilometer of double-tracked railway could be built by the profit coming from 100,000 tsubo (330,000 m²) of land development -- supposing 5,000 yen of profit per tsubo...

Appendix 14-4-8 Station Development

Table 1: Station Development and Passenger Traffic

Station type	Number of passengers getting on/off	Surroundings		Off-rail business	
		Populat'n of station area	Neighbor-hood	Target Customers =getting on/off passengers	Target Customers =General public
Commuter Station Musashino and Saikyo Lines. Both of them were constructed in 1970's suburbs of Tokyo	Approx. 50,000 pers./day	Populated Uptrend	offices	Middle-scaled shops/restaurants	
			schools/institutes	Middle-scaled restaurants	
			factories	Middle-scaled restaurants	
			stores	Middle-scaled shops/restaurants	
			houses	Middle-scaled shops/restaurants	Middle-scaled super market
Commuter/long distance terminal (Nagoya Station is considered)	Approx. 25,000 pers./day More than 50,000 pers./day	Less. populated Uptrend More populated Up trend	schools	Small-scaled restaurant	
			houses offices	Small-scaled shops/restaurant	Small-scaled super market
				Large-scaled shops/restaurants	Hotel

Note: In making up the above list, the application to the Klang Valley area was kept in mind. Stations have been selected from among those which can be assimilated in characteristics to those along the Corridor. The list could be otherwise if the selection is made in different manner.

Table 2: A Provisional Application of Japanese Case to the Project

Station	Passengers getting on/off(2005)	Surroundings	Off-rail business which could be planned	Space for shops/restaurant(1997)
Rawang	31,500	Houses/shops	Small-scaled shops/ Restaurants/Super market	300
Kepong	14,000	Houses. LRT Connection	Small-scaled shops/ Restaurants/Super market	500
Segambut	51,000	Factories/ Houses	Small-scaled restaurant	500
Mall	28,500	Shops/Offices	Middle-scaled shops/ Restaurant	500
P.Menteri	50,000	Shops/Offices	Middle-scaled shops/ Restaurant	500
K.L	87,500	Offices	Large-scaled shops/ Restaurant/Hotel	1,000
Salak South	75,500	Houses	Middle-scaled shops/ Restaurant/Super market	500
Sg.Besi	67,000	Houses	Small-scaled shops/ Restaurant/Super market	500
Serdang	28,000	Houses	Small-scaled shops/ Restaurant/Super market	500
Kajang	36,000	Houses/Shops	Small-scaled shops/ Restaurant/Super market	500

The space allotted to each station in the list is quite provisional. Considerations were given to the difference in amount of purchase per person between Tokyo and KL. Considerations were also given to the planned scale of new stations in DTP.

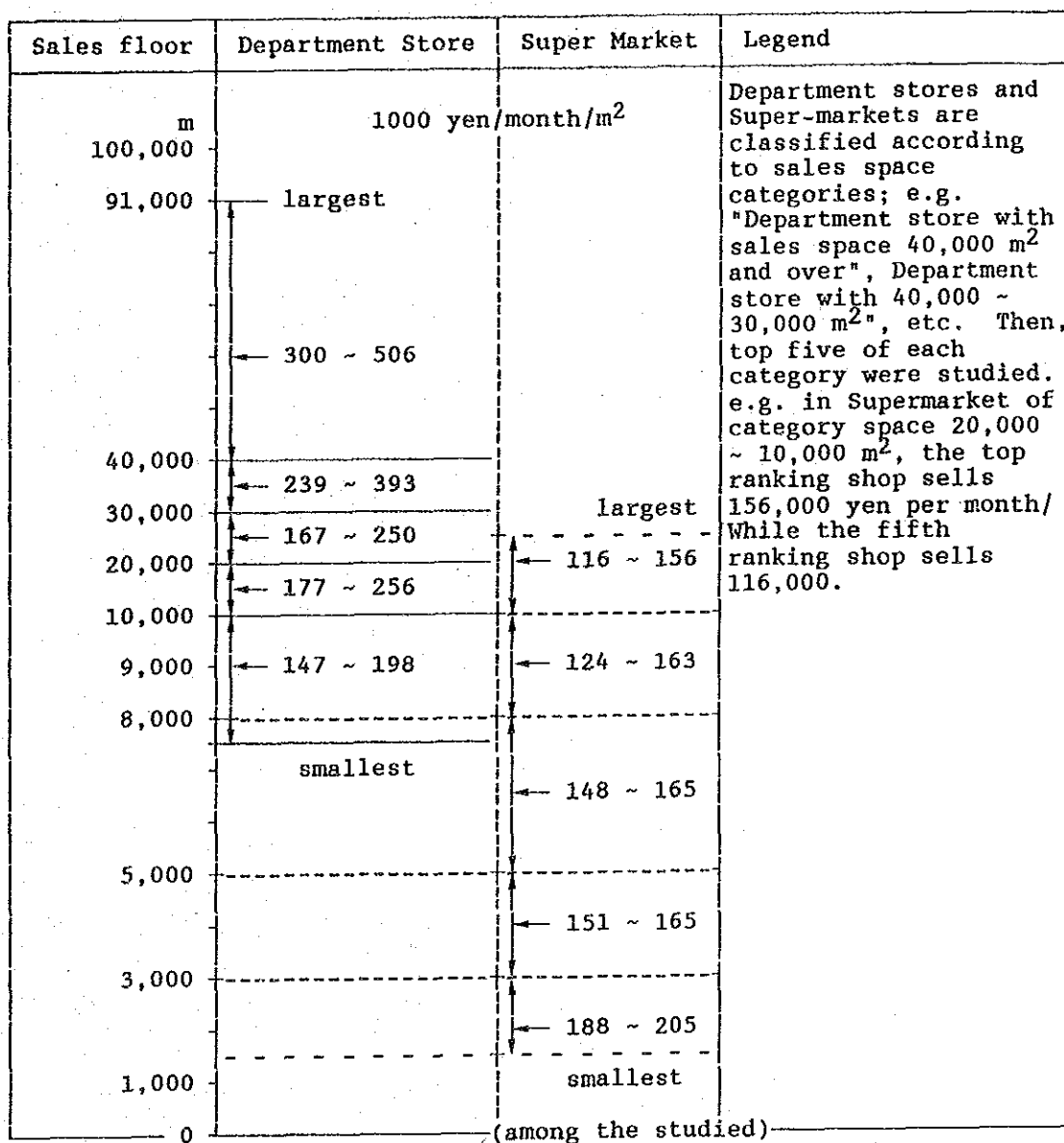
Appendix 14-4-9

Eastern Japan Passenger Railway received in 1989 from the shopping centers in which it invested, rent mounting 12,190 million yen.

Appendix 14-4-10: Sales per Square Meter (yen/month/m²)

Super market	(average of 2,967 shops, 1989)	75,000
	(Top ten: 1st ~ 10th)) 98,300
	(Ranking 91th ~ 100th)) 79,000
Department store	(average of 149 shops, 1989)	165,200
	(Top ten: 1st ~ 10th)) 312,200
	(Ranking 91th ~ 100th)) 86,900

Table 1: Shop Scale and Sales per Space



JICA