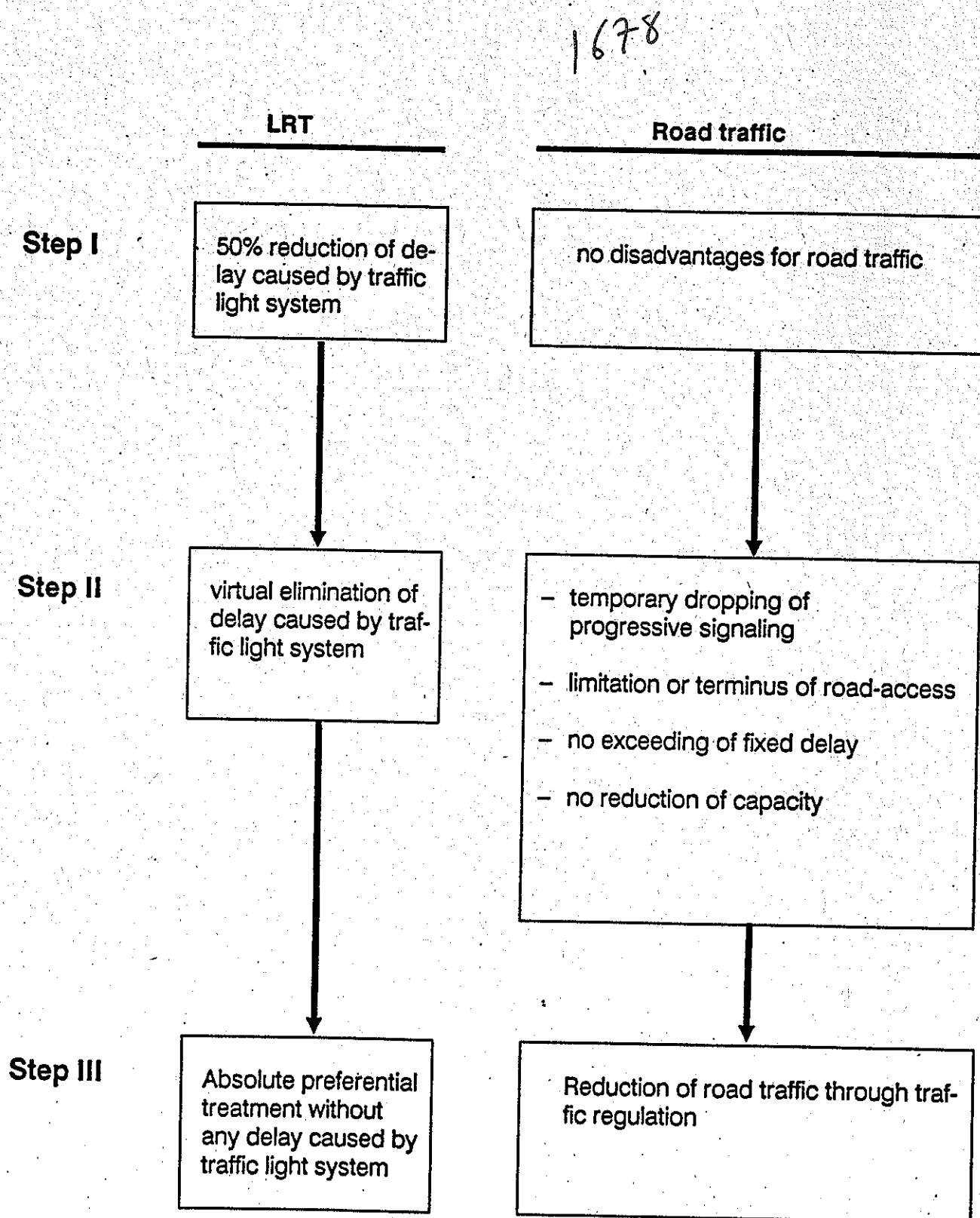
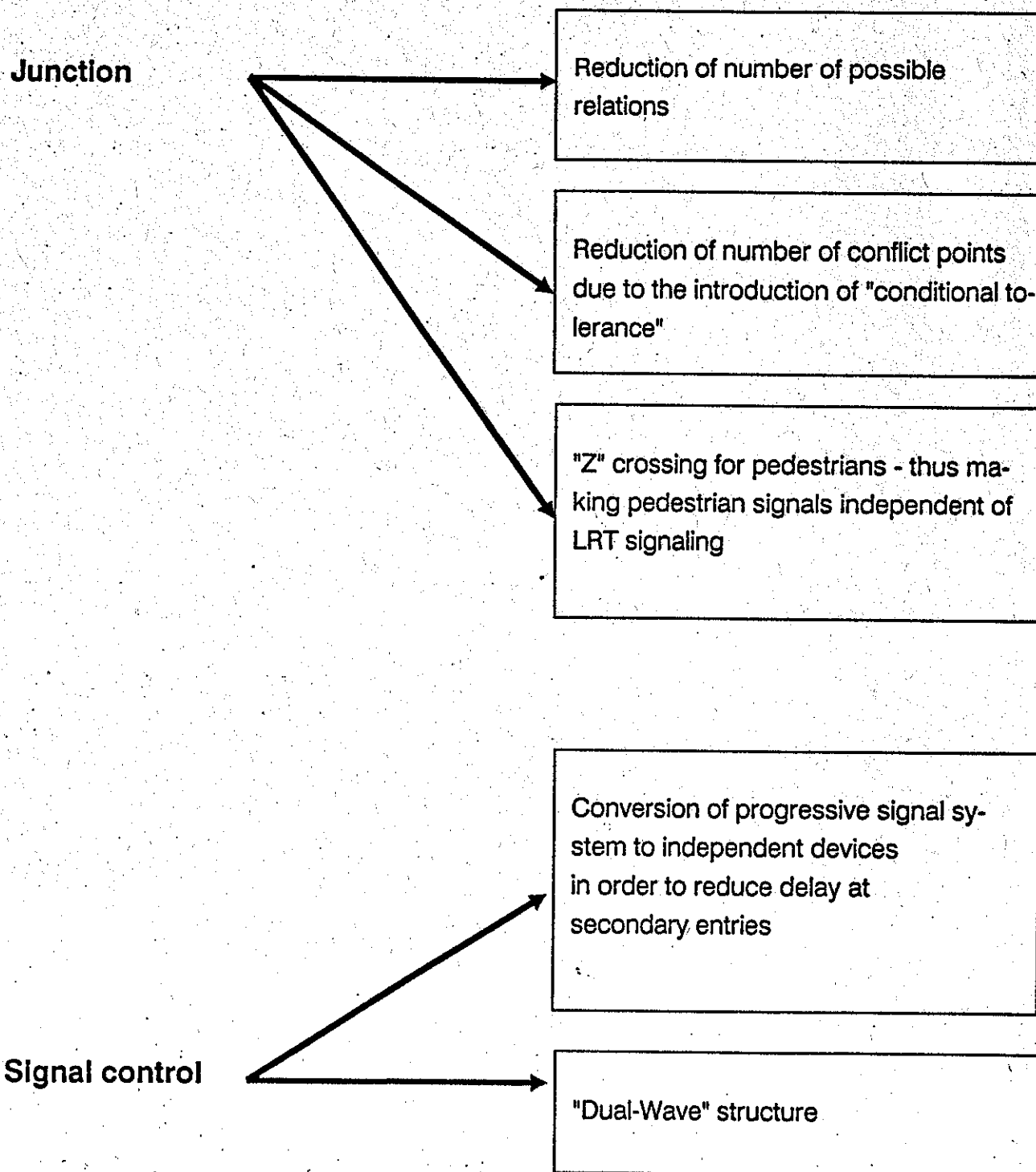


Signal preemption of light rail

Objectives (of transport policy) and their further development



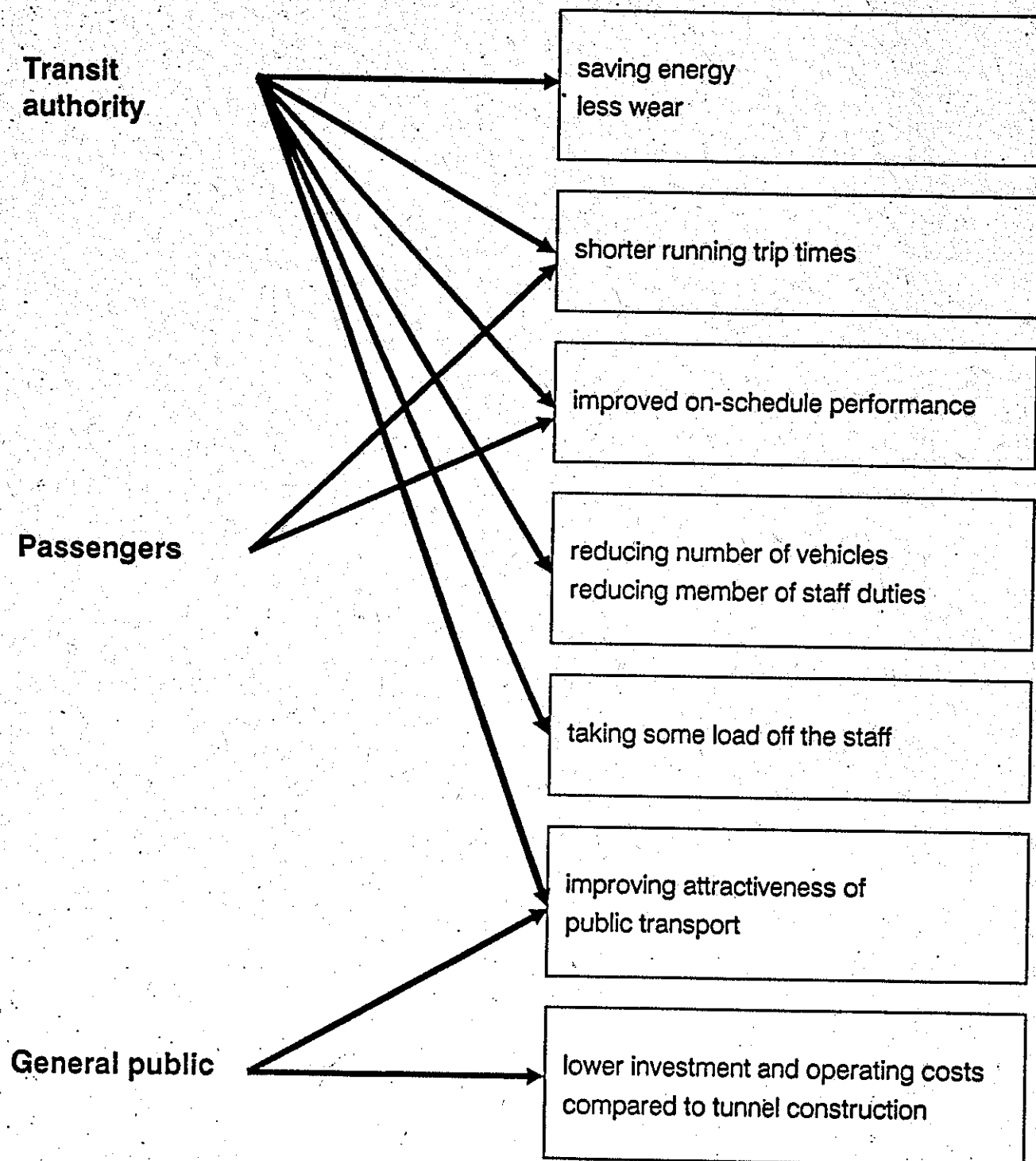
Signal preemption of light rail Change of fundamental conditions



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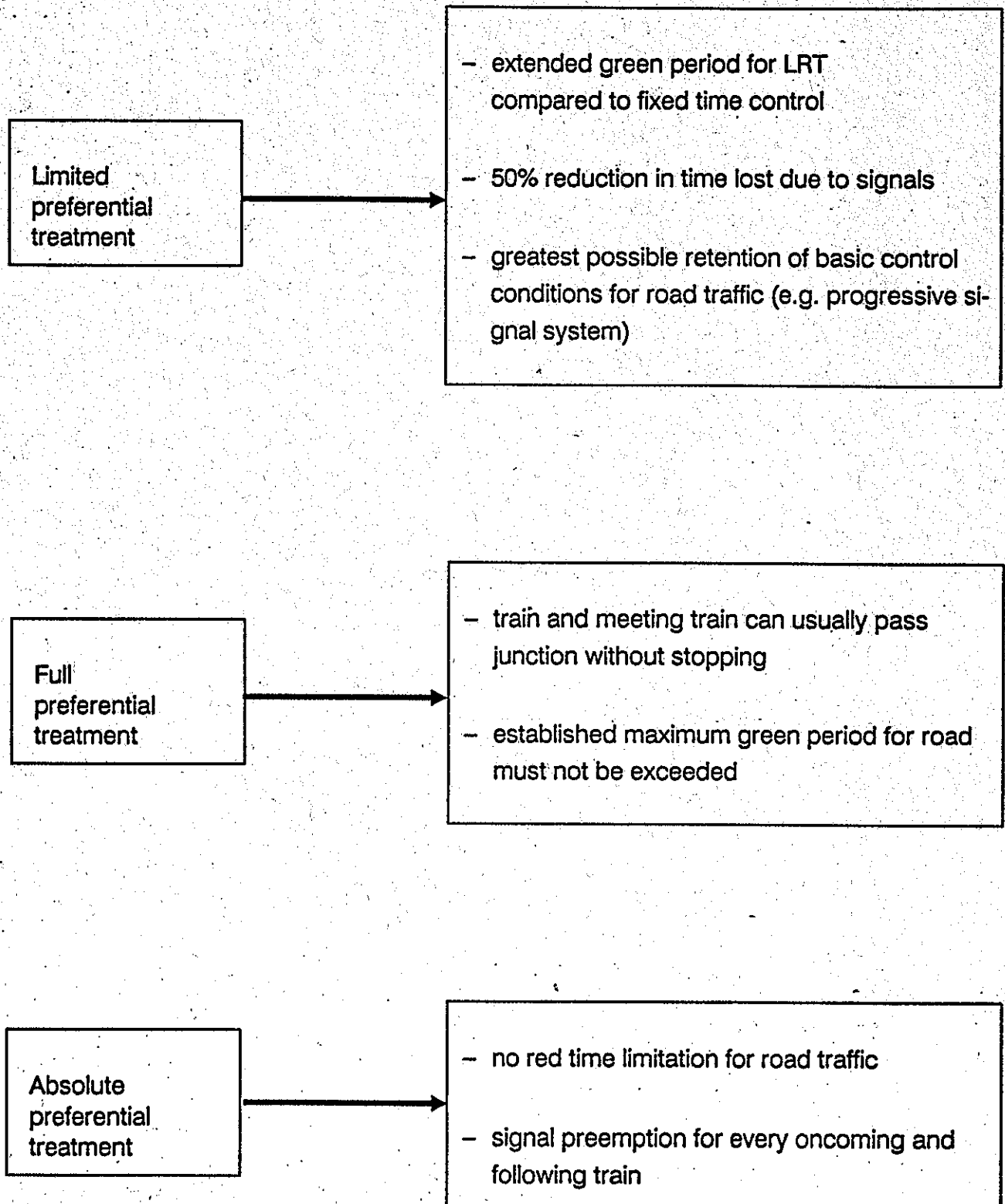
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Signal preemption of light rail Objectives



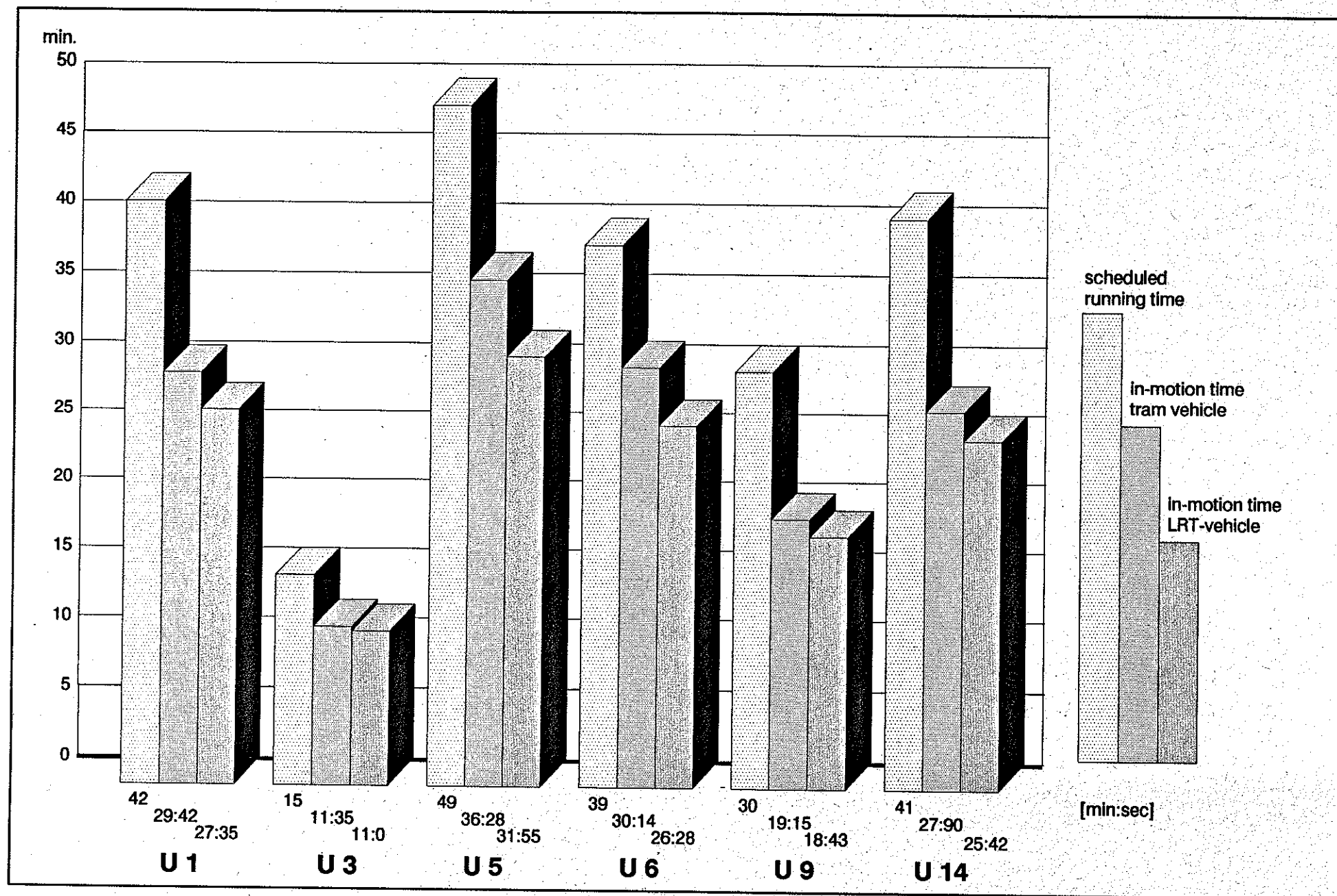
Signal preemption of light rail

Definition



	U1	U3	U5	U6	U9	U14
Number of traffic lights	31	8	31	12	27	22
Density of traffic lights [lights/km]	1,8	1,0	1,5	0,7	2,4	1,4
Portion of tunnel [%]	21,9	0	29,8	46,3	21,2	30,8
Portion of seperated railroad and exclusive right of way [%]	94,2	100	99,1	98,9	92,1	93,7
Running speed [km/h]	24,7	31,4	26,0	27,4	22,8	23,4

Number of traffic lights, density of traffic lights, portion of tunnel and running speed along 6 LRT-lines in Stuttgart



Running time (schedule) and in-motion times (tram and LRT-vehicles)

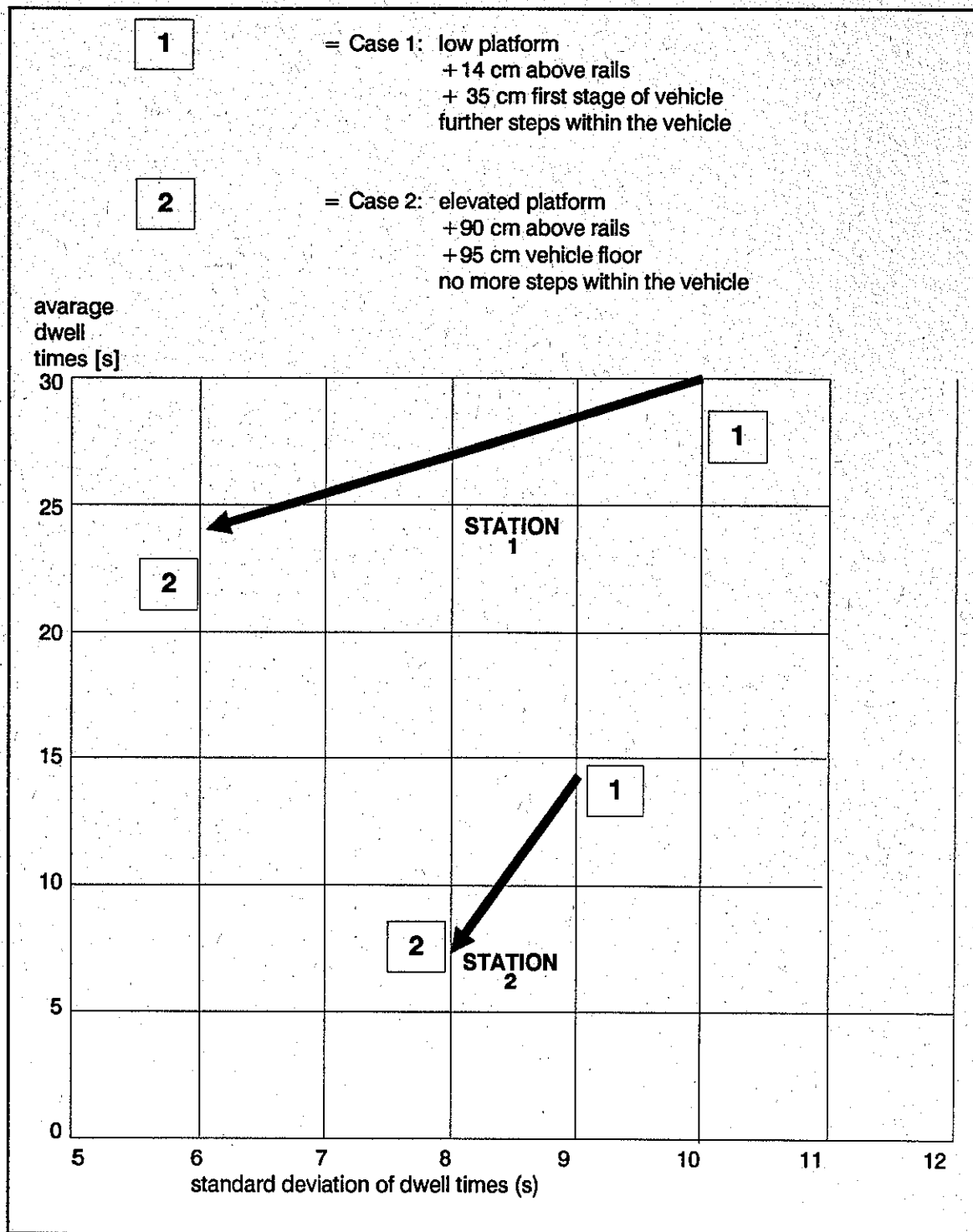


Fig. 4: Average dwell times and variation before and after changing of platforms at 2 stations in Stuttgart.

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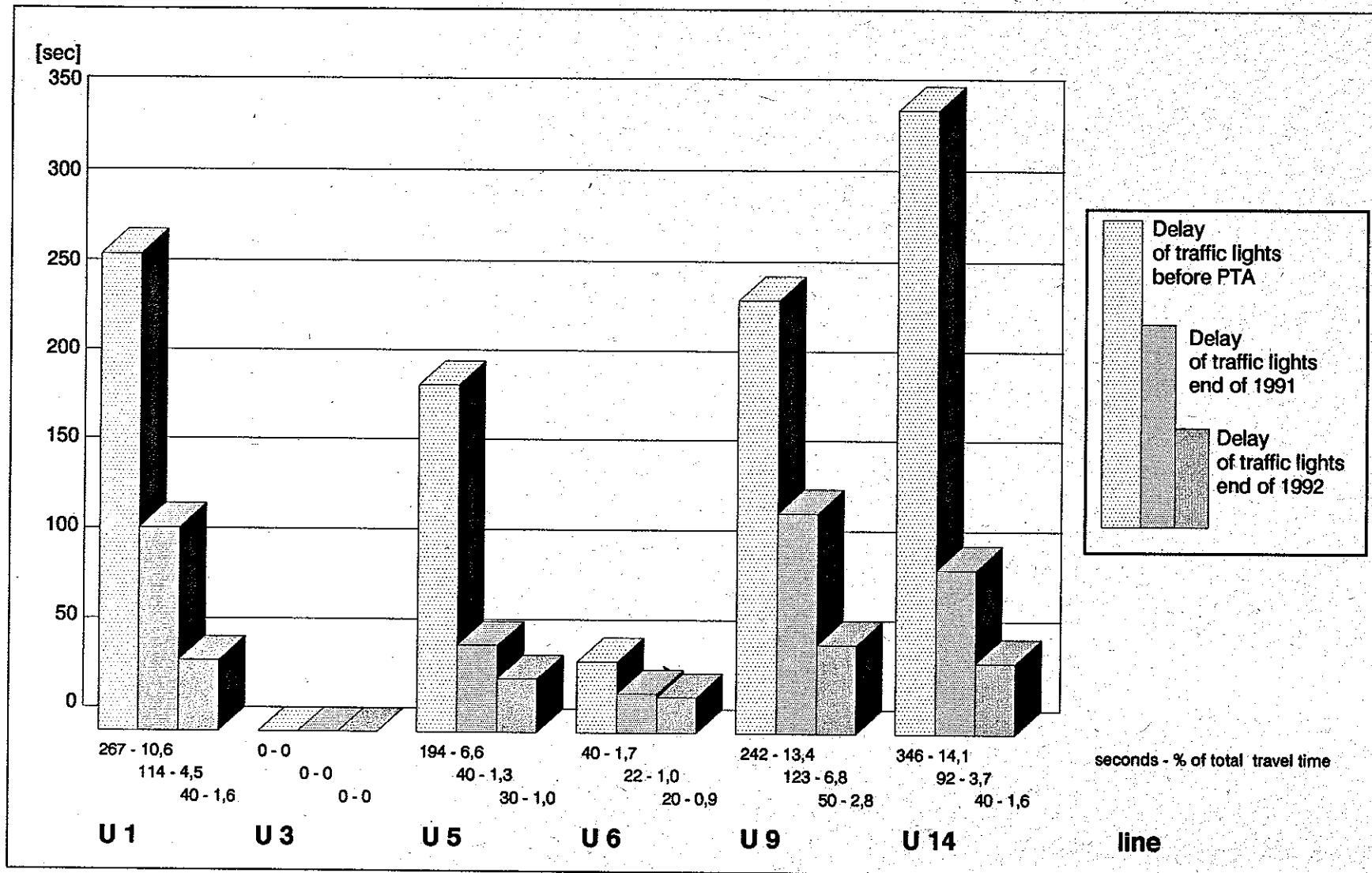
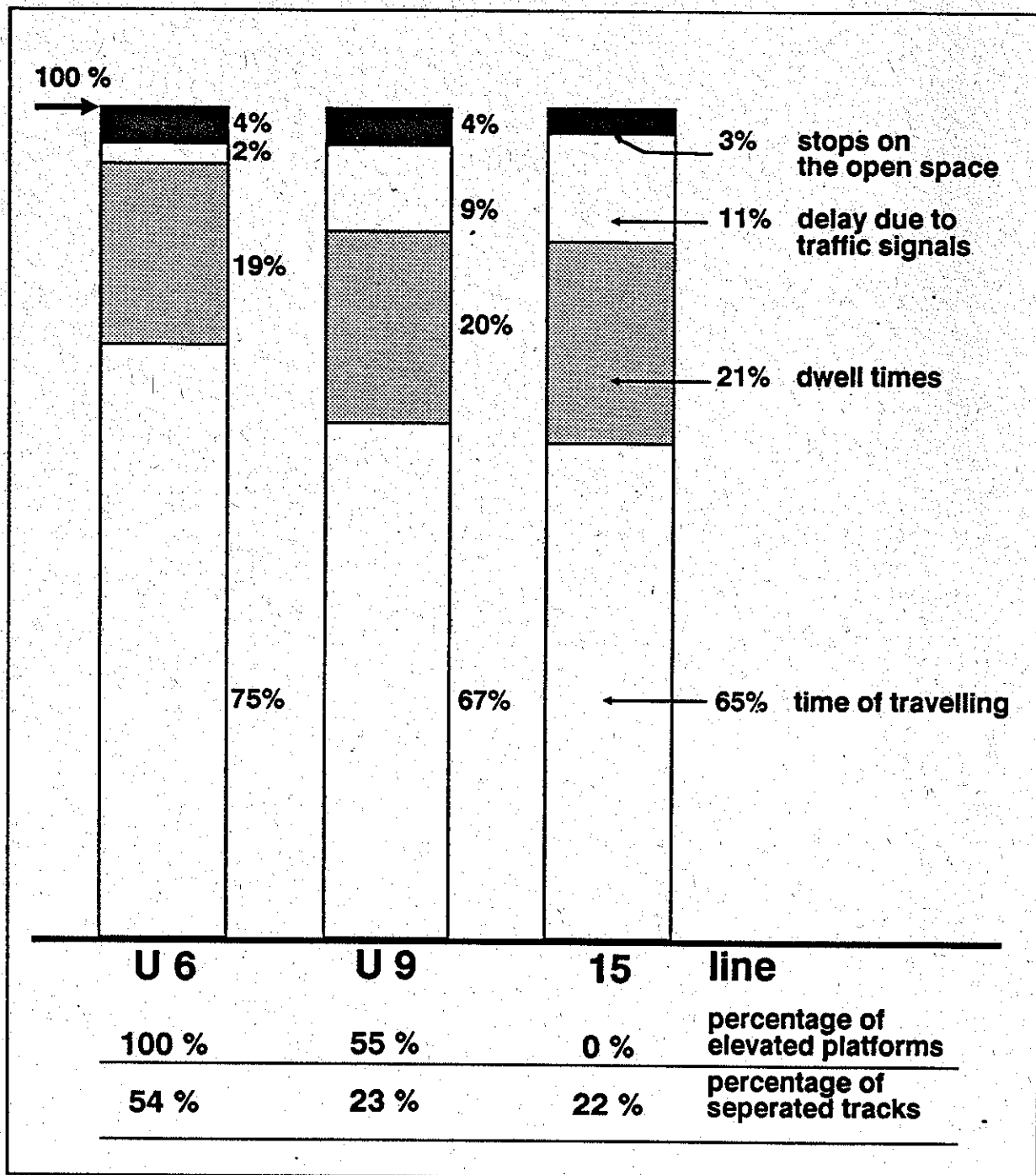
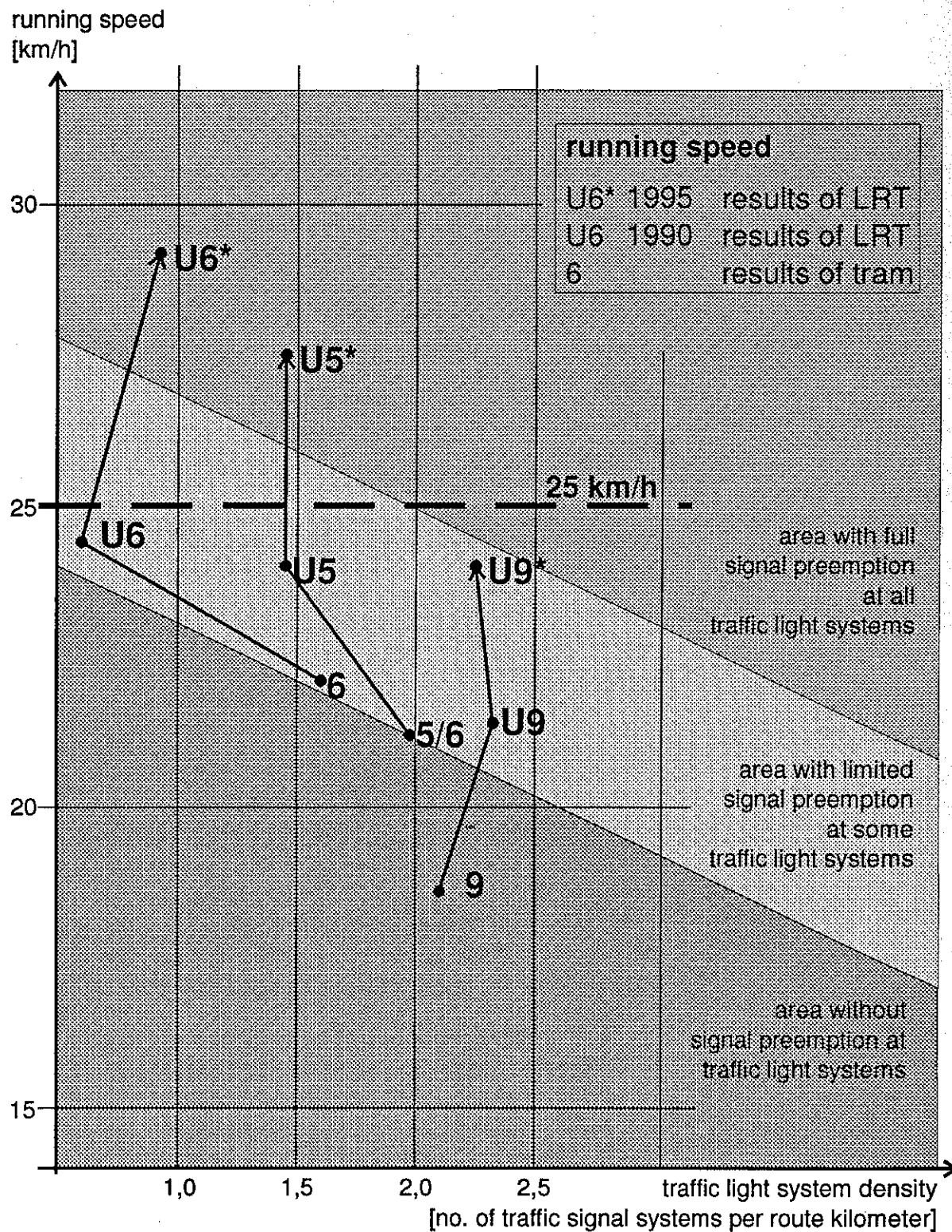


Fig. 14: Delay at traffic lights along 6 LRT-lines in Stuttgart before and after PTA

432 20 LSA
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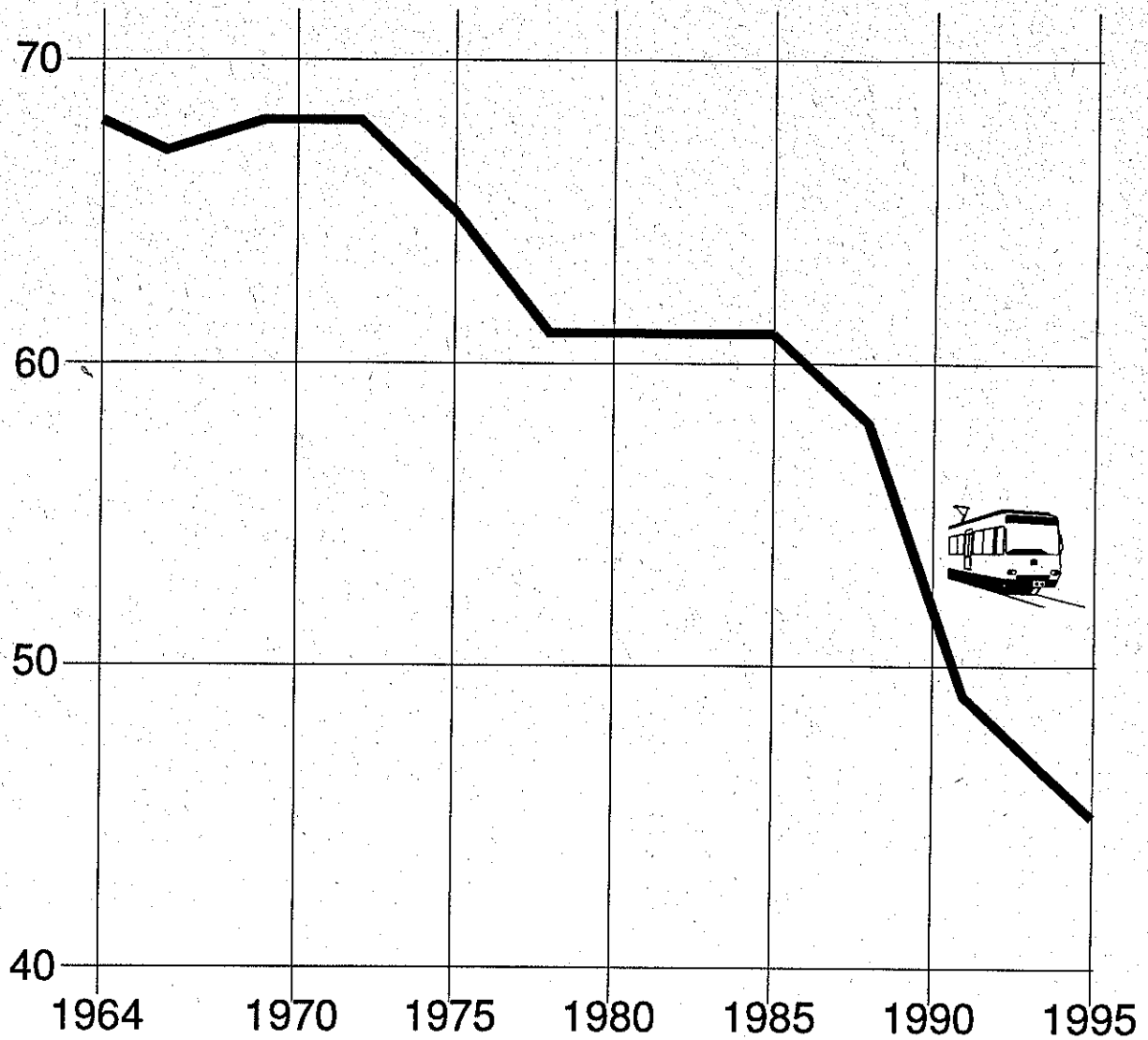


Signal preemption of light rail running speed - traffic light density - relationship



LRT trip time

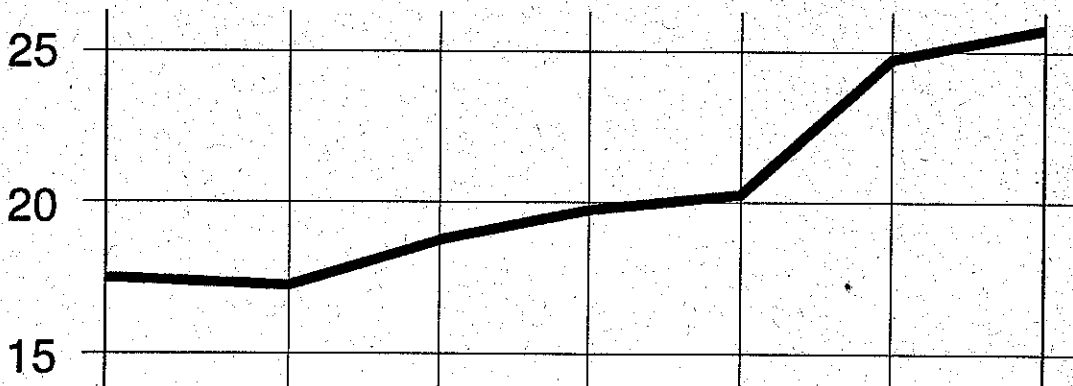
trip time U5 [min] Leinfelden - Freiberg



Average trip speed and acceleration measures

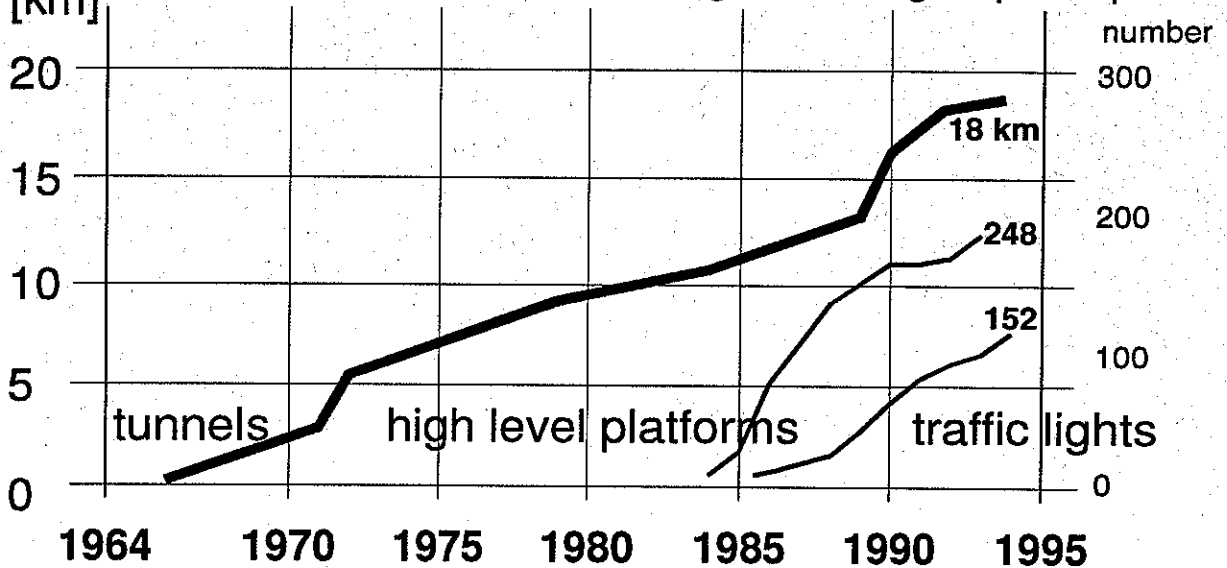
average trip speed tram/LRT

[km/h]



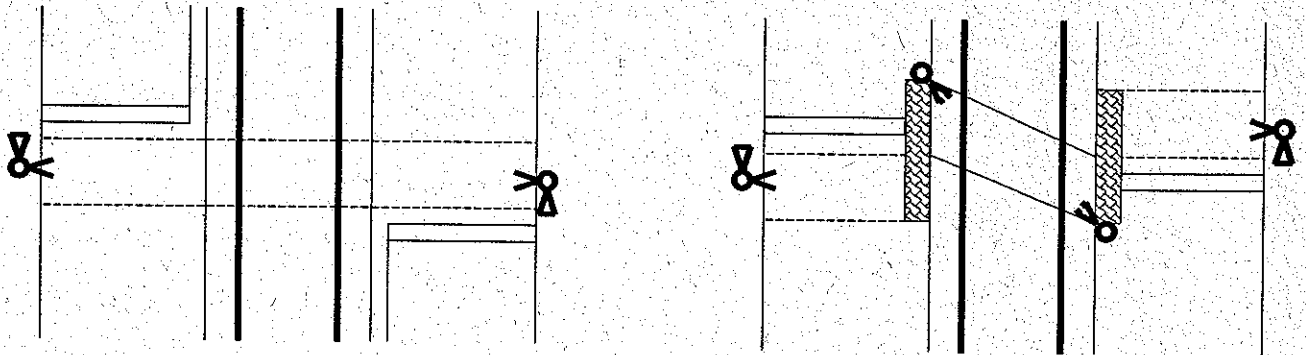
length of tunnels
[km]

high level platforms
traffic lights with signal preemption

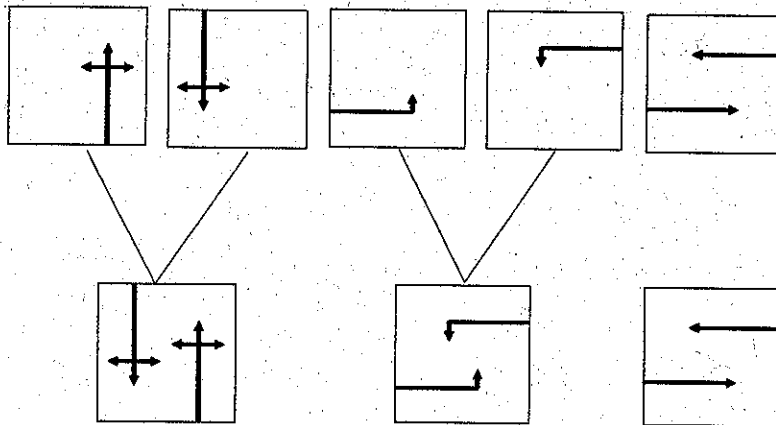


Supporting measures for signal-preemption

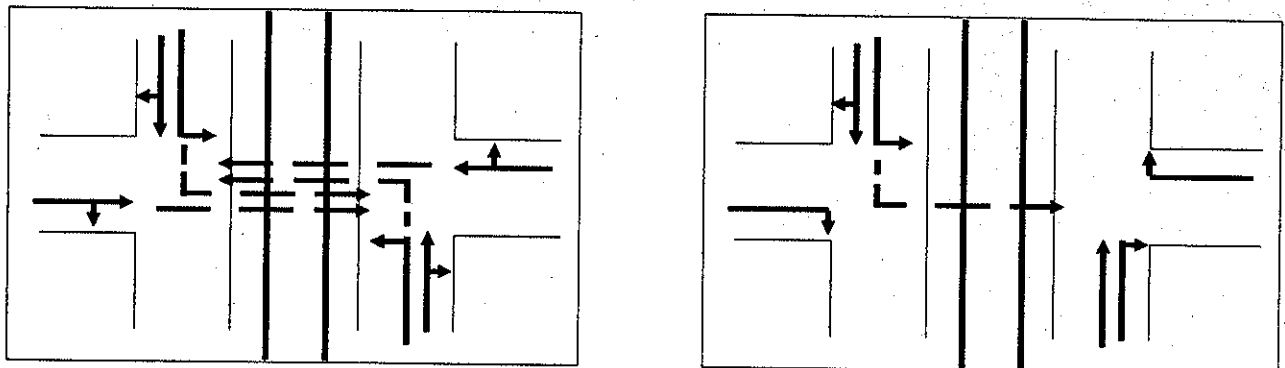
Alternation of pedestrian crossing

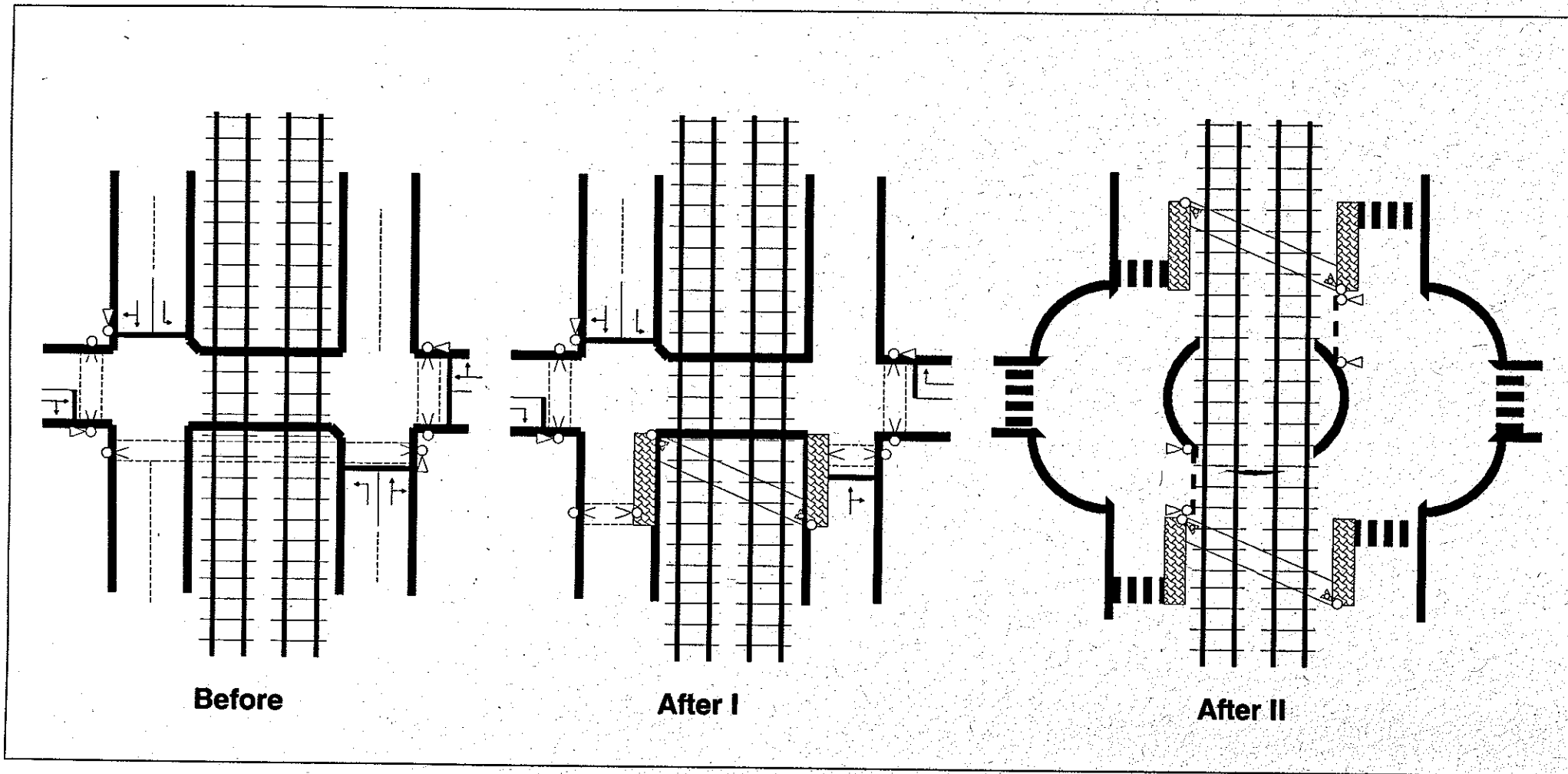


Reduction of multiple signal stages with exclusive turning signals



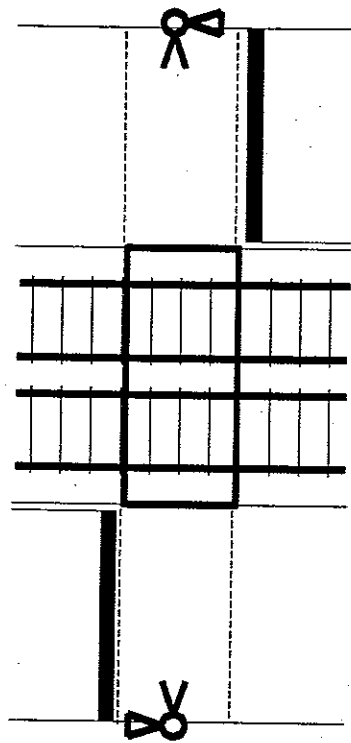
Reduction of the permitted movements



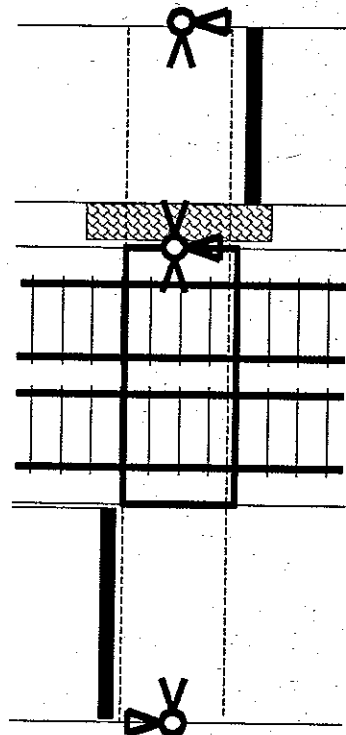


Change of ground plans for better signal-preemption

Pedestrien-crossways over rails and street

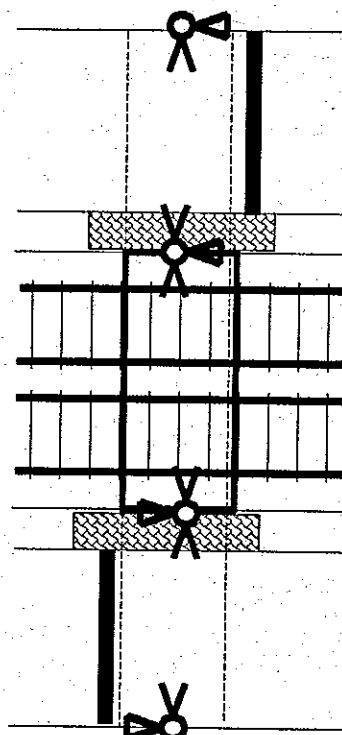


ongoing signal for street and rail



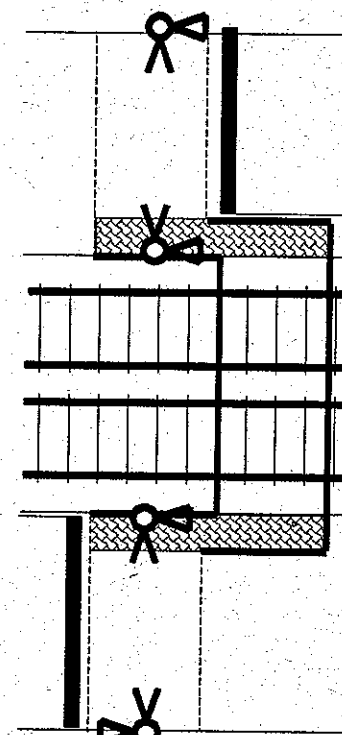
straight crossing

two sections signalisation

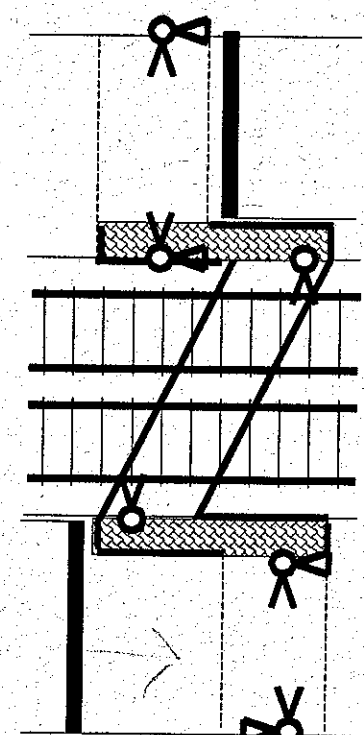


rail section signalised by red lights or yellow flash lights

straight crossing

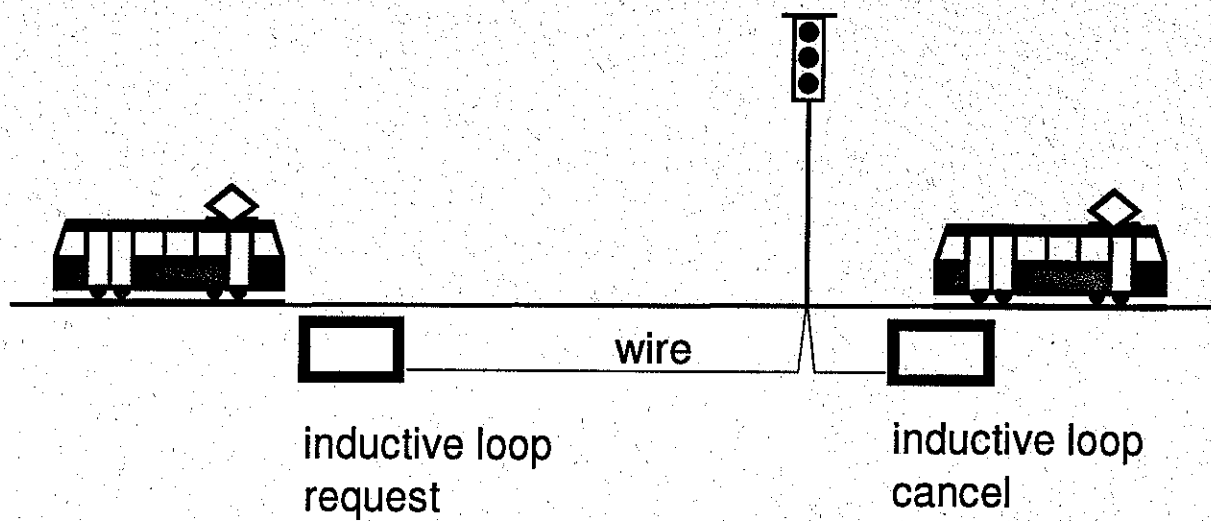


U-crossing



Z-crossing

traffic signal-technique LRT

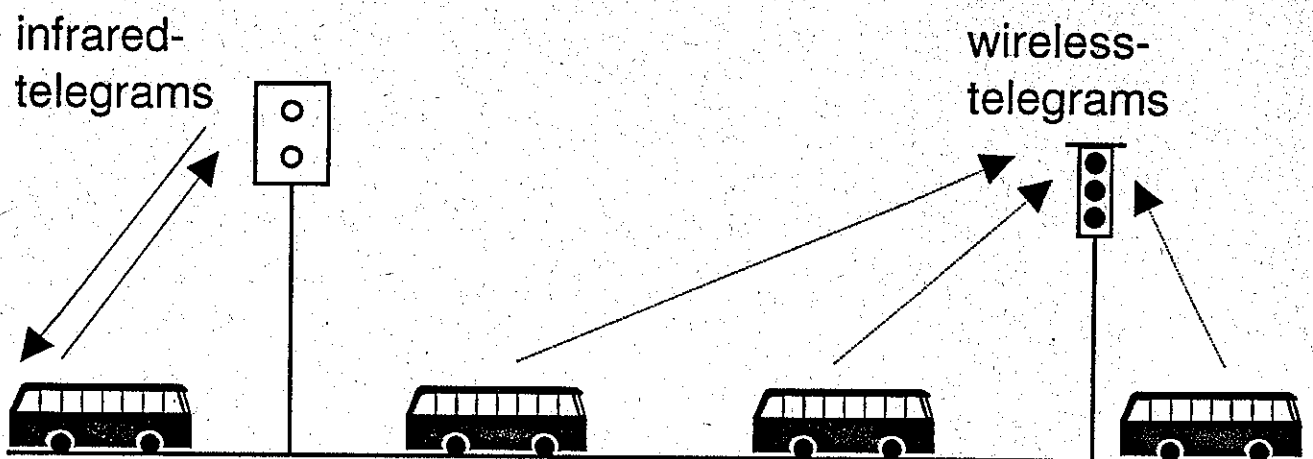


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traffic-signal technique bus-system



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