Performance Management of Road Administration in Japan

March 2004

Performance Management Office
Road Bureau, Ministry of Land, Infrastructure and Transport

1. Recommendation of the Road Subcommittee, Infrastructure Development Council (August 2002)

Outline From **"It's time to change - For Better Living, a Better Economy and a Better Environment"**

Chapter 4 Basic Direction of Road Administration Reform

4-3 Reform of Administration System

(1) Basic viewpoint

- It is important to shift to an outcome-based road administration that achieves its mission by ensuring good services provided by roads.

(2) Direction of reform

- Exact understanding of road users' needs and accurate identification of and concentration on the most effective investment choices should make a great difference.
- Establishing an evaluation system using outcome indicators that clearly show policy goals is essential.

Chapter 6 Administration System Reform

6-1 Distinction by Evaluation System

(1) Introduction of an evaluation system for distinction

- An evaluation system using indicators that reflects the outcome of programs and projects (outcome indicators) should be incorporated into administration management, and efficient and effective implementation of projects should be aimed for.

(2) Improvement of evaluation of projects

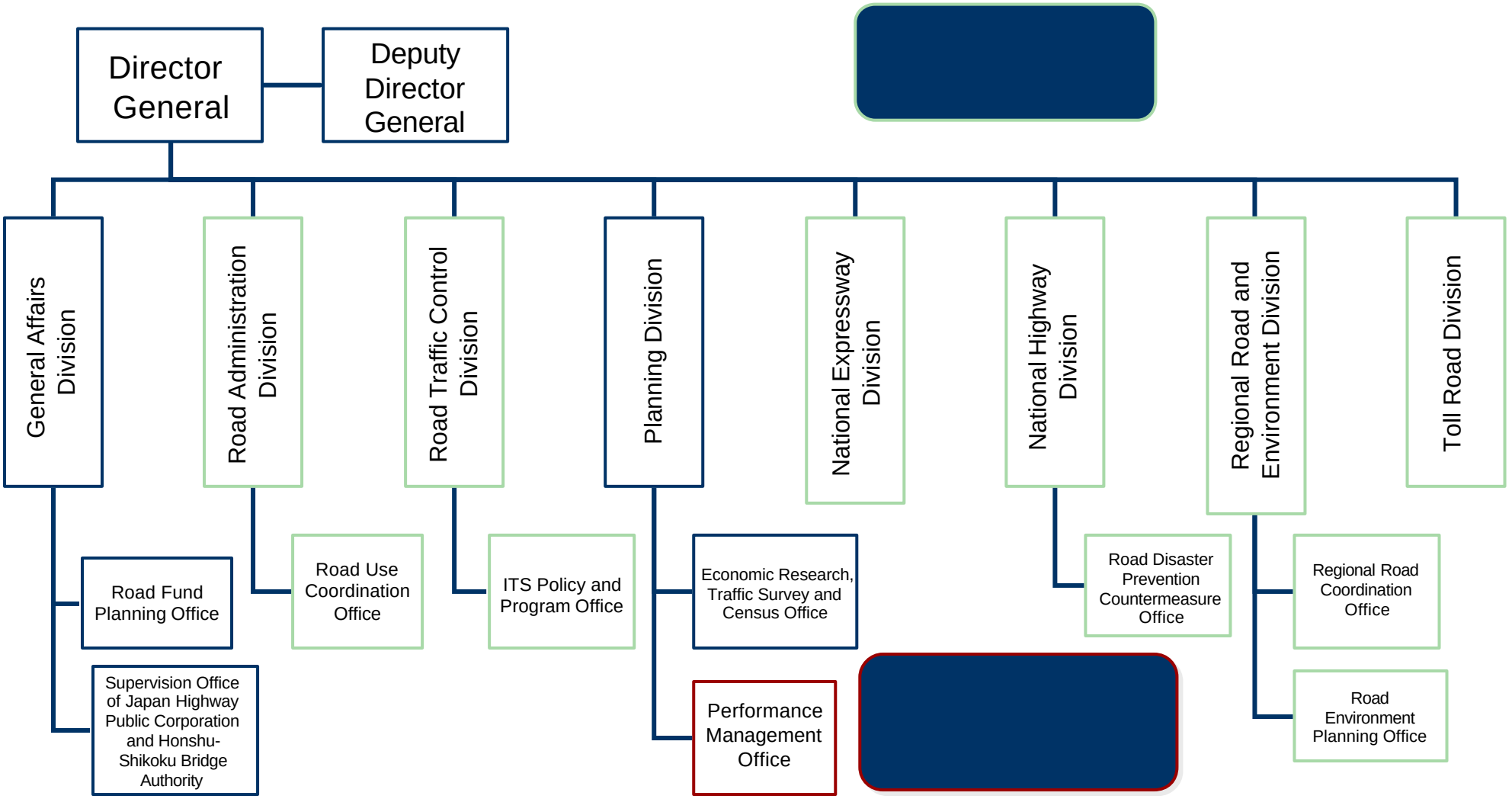
- Evaluation of projects based on consistent criteria should be carried out.

(3) Improvement of policy evaluation

- Road administration should shift to a type of operation that uses outcome indicators as the guiding principle.
- Analysis and evaluation of achievements according to the outcome indicators should be carried out every year.
- Results should be appropriately assimilated into the budgeting process.

2. Establishment of The Performance Management Office

■ Organization of the Road Bureau



3. Advisory Committee for Public Management of Road Administration

Advisory Committee for Public Management of Road Administration (established in March 2003)

■ Committee

Chairperson

Shun'ichi Furukawa	Prof., Institute of Policy and Planning Sciences, University of Tsukuba

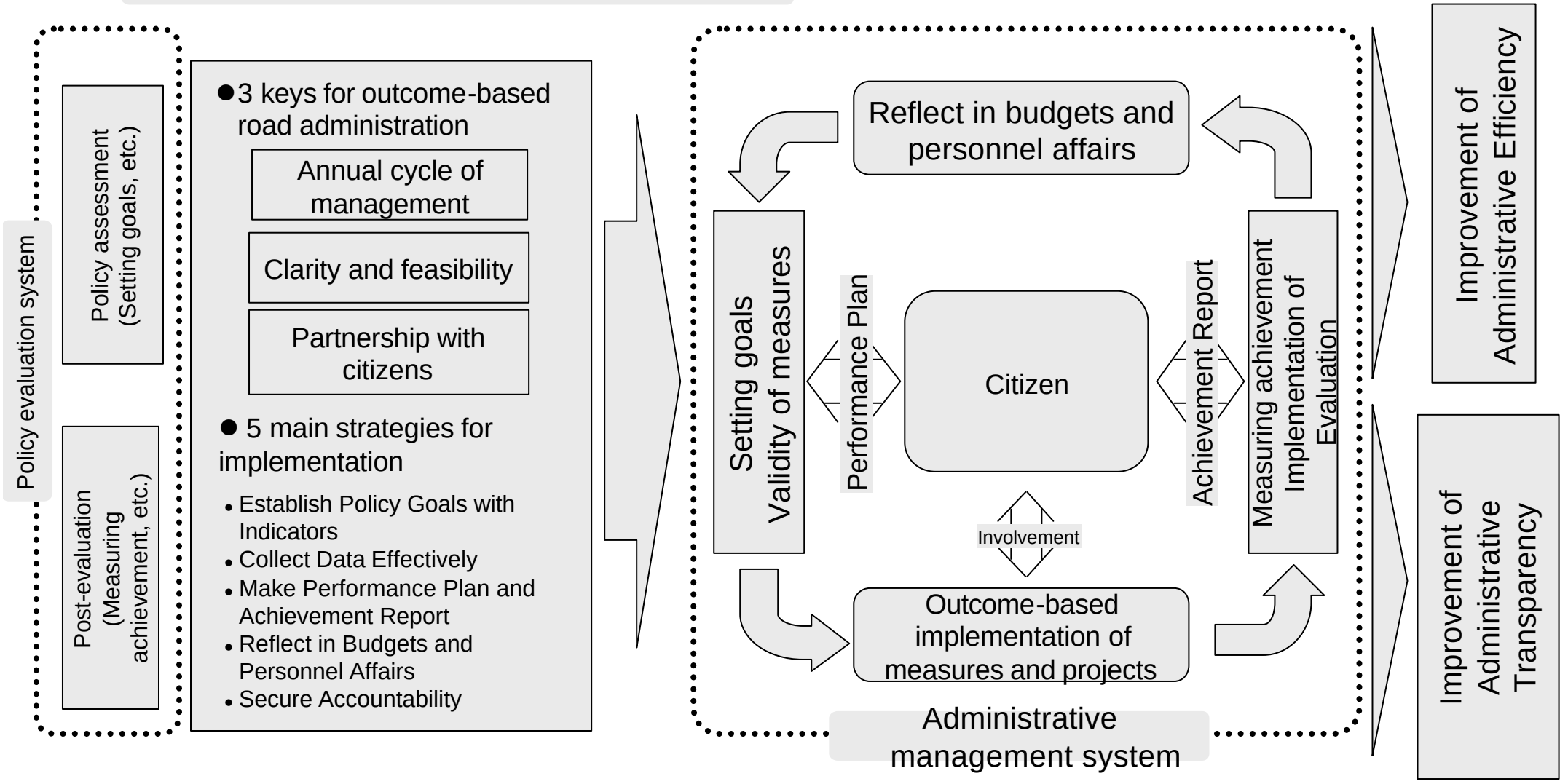
Members

Hitoshi Ieda	Prof., Graduate School of Engineering, The University of Tokyo
Jirou Umeda	Advisor, Government and Corporate Governance Renovation Sector, Japan Management Association Consultants (JMAC), Inc.
Nobusato Kitaoji	Prof., School of Administration and Informatics, University of Shizuoka
Yukiko Tabuchi	Senior Staff Researcher, Research Center for E-Government, Mitsubishi Research Institute, Inc.

■ Items of Review

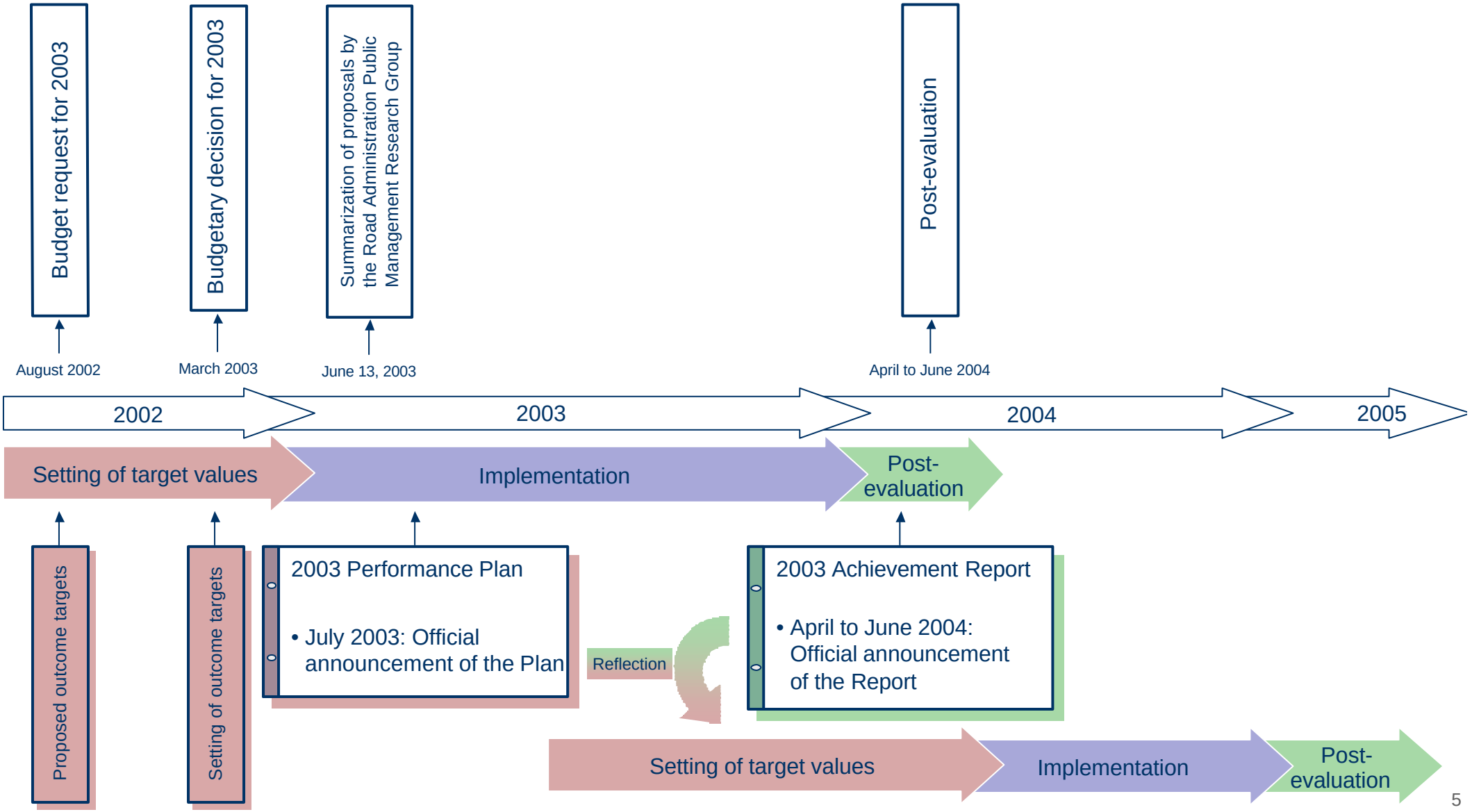
1) Review of "Appropriate Form of New Road Administration Public Management"
   This review is to study the way public management of road administration based on an evaluation system using outcome indicators should be.
2) Review of "Performance Plan" and "Achievement Report"
   This review is to study a "performance plan" and a "achievement report" indispensable for administration management based on outcome indicators.

Management shifting from "theory" to "practice"

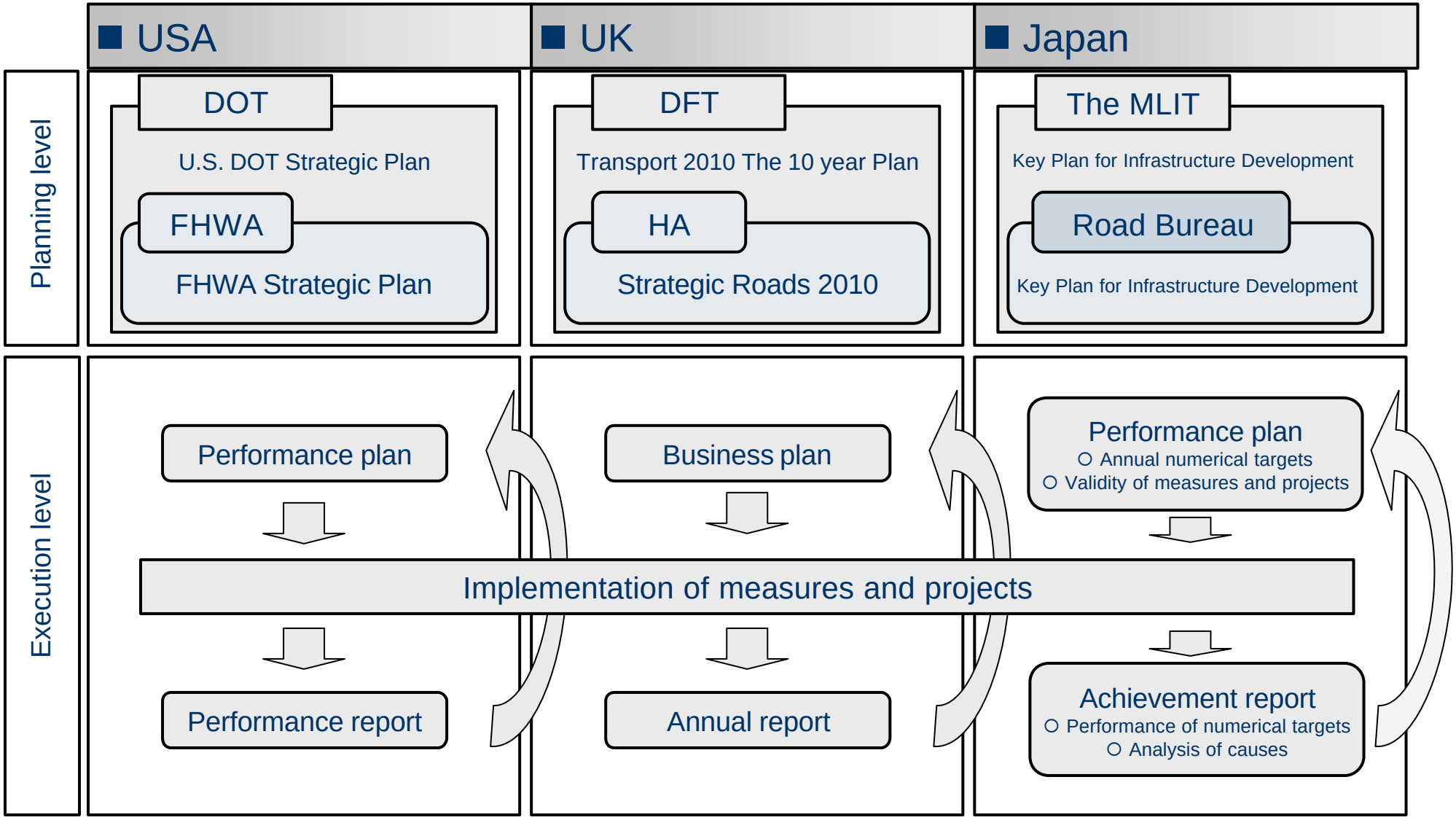


Establishment of a Management Cycle

Establishing an Administration Process That Prioritizes the Outcome - Taking Fiscal Year 2003 As an Example -



The Way Public Management of Road Administration Should Be

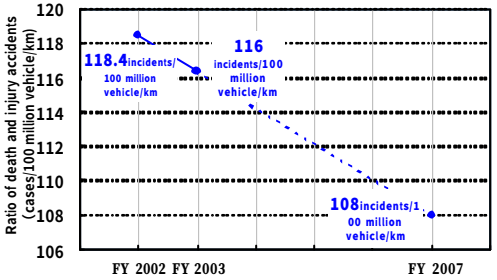


4. Outline of “Performance Plan for Road Administration 2003”

- Starting “outcome-based” road administration from 2003
  - Implement of an outcome-based public management system where numerical targets set beforehand using indicators(outcome indicator) that express outcome of road projects, evaluate afterwards, and then reflect in the subsequent measures and projects from 2003
- Making “Performance Plan” which indicates the numerical targets to be achieved in a year’s time using 17 indicators
  - Compile and disclose as “Performance Plan for Road Administration”, which indicates the setting numerical targets to be achieved in a year’s time using 17 indicators such as “time loss due to road congestion,” “hours of road work,” and “Ratio of death and injury due to road accidents” and evaluating the validity of the measures and projects for achieving targets concerning outcomes of road policy based on the budget in 2003.
- Disclosing back data for each prefecture at the same time, such as congestion status
  - Disclose together with the “Performance Plan” relevant back data such as indicator value for each prefecture in order to enable the public to check the validity of the numerical targets and the measures and projects for achieving them.
- Making “Performance Plan” for each prefecture
  - For road administration that meets the characteristics and needs of a region, “Performance Plan” will be formulated and disclosed for each region, such as prefecture, which indicates the numerical targets and measures and projects for achieving them in addition to the undertaking at the national level.
- Evaluating degree of achievement after a year and reflecting it in the subsequent administration
  - The degree of achievement for each numerical target is measured after a year, the reason analyzed if it has not been met, and the evaluation result is compiled and disclosed as the “Achievement Report.” Furthermore, the evaluation result is properly reflected in the subsequent measures and projects.

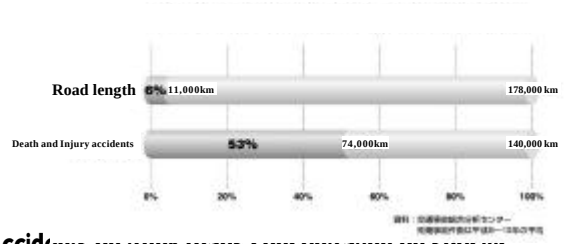
Example: Ratio of death and injury accidents by road traffic

■ Current indicator value and numerical target



Intermediate target is to reduce the ratio of death and injury accidents by about 10% by FY 2007 down to 108 cases per 100 million vehicle/km

■ Current situation and problems



Accidents on trunk roads concentrating on specific locations

53% of accidents on the basic freeway segment of trunk roads were concentrated in just 6% of the trunk roads.

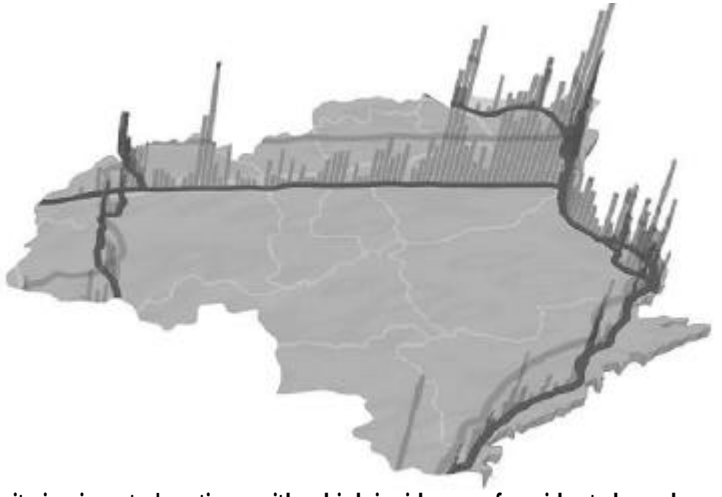
■ Issues and adopted measures

Intensive measures against accident prone locations on trunk roads

"Urgent measures against accident prone locations(3,956 locations selected)" etc.

■ Back data

- Disclose back data related to the indicator value for each prefecture .
- For example, project location is selected by based on accurate and detailed data such as the cause of accidents by each location and priority is given to those with an urgent need for countermeasures.



Priority is given to locations with a high incidence of accidents based on detailed data analysis

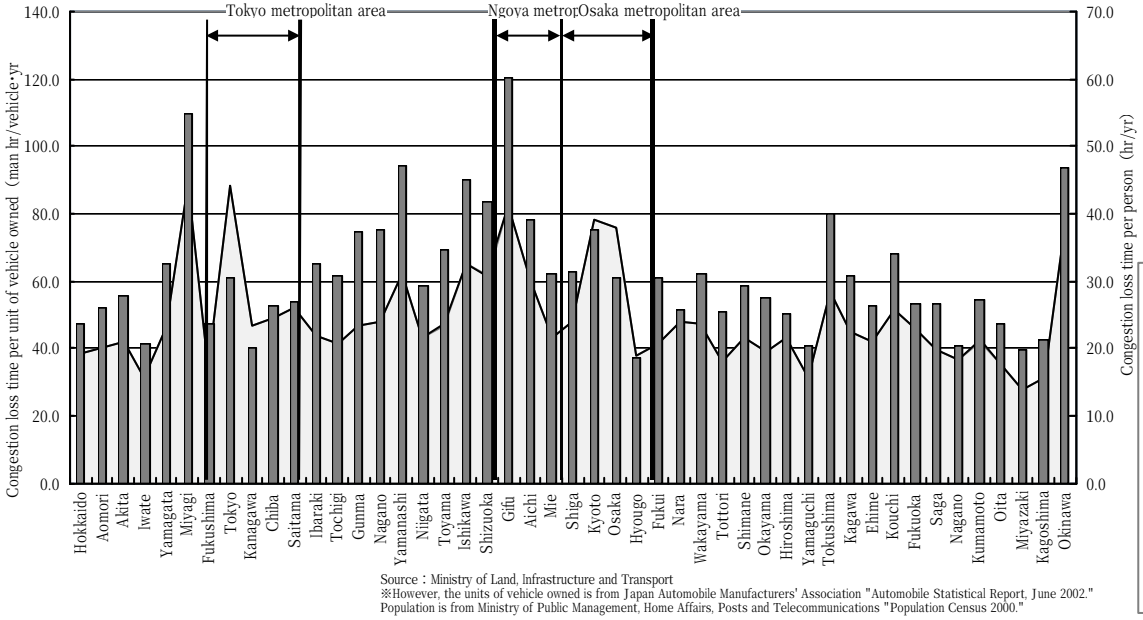
Indicators and Numerical Targets of Each Policy Theme

Policy Theme	Performance Indicator	Current Indicator Value(FY2002)	Target for FY2003	Target for FY2007 (Under consideration)
1. Vitality ～restoration of economic vitality through urban renewal and regional coordination～	① Time loss due to traffic congestion (congestion monitoring zone)	610 million man hr/yr	590 million man hr/yr (2.5% reduction)	about 10% reduction
	② Ratio of ETC usage — national	5%	15%	70%
	② Ratio of ETC usage — metropolitan expressway	6%	20%	85%
	② Ratio of ETC usage — Hanshin expressway	3%	15%	85%
	③ Hours of road work	235 hr/km·yr	225 hr/km·yr (4% reduction)	about 20% reduction
	④ Ratio of high standard road usage (Targeted traffic that will be newly switched over to expressways during the current fiscal year)	13%	13% (Switchover of 2.1 million vehicle-km/day)	15%
	⑤ Ratio of roads with access to hub airports and ports	59% (Access to 39 locations)	61% (Access to 40 locations)	68%
	⑥ Ratio of main cities in neighboring regions that are connected to each other by an upgraded national road	72%	73%	77%
	⑦ Percentage of people who are able to have a safe and pleasant drive into the city, the center or daily life, in under 30 minutes	63%	64%	68%
2. Living ～better quality of life～	⑧ Percentage of barrier-free main roads in the vicinity of passenger facilities with an average daily user volume of more than 5,000	17%	21%	about 50%
	⑨ Percentage of trunk roads in urban areas without telephone poles	7%	8%	15%
3. Safety ～ensuring secure and safe life～	⑩ Ratio of death and injury due to road accidents	118.4 incidents /100 million vehicle-km	116 incidents /100 million vehicle-km	108 incidents /100 million vehicle-km (about 10% reduction)
	⑪ Road structure maintenance ratio — Bridge	86%	87%	93%
	⑪ Road structure maintenance ratio — Pavement	91%	Maintain current level	
	⑫ Percentage of cities that have rescue routes covering a wide area in the event of disasters	66%	68%	76%
4. Environment ～preservation and creation of environment～	⑬ Reduction of CO_2 emission	—	Reduce CO_2 emission by transportation sector to about 250 million t-CO_2 by 2010	
	⑭ Ratio of NO_2 environmental goal achievement	64%	67%	about 80%
	⑭ Ratio of SPM environmental goal achievement	—	about 10%	about 60%
	⑮ Achievement rate of required limits on nighttime noise	61%	63%	72%
Road Administration Reform	⑯ Level of road user satisfaction	2.6 points	2.7 points	3.0 points
	⑰ Number of hits on homepage	15.46 million access/yr	26 million access/yr	about 100 million access/yr

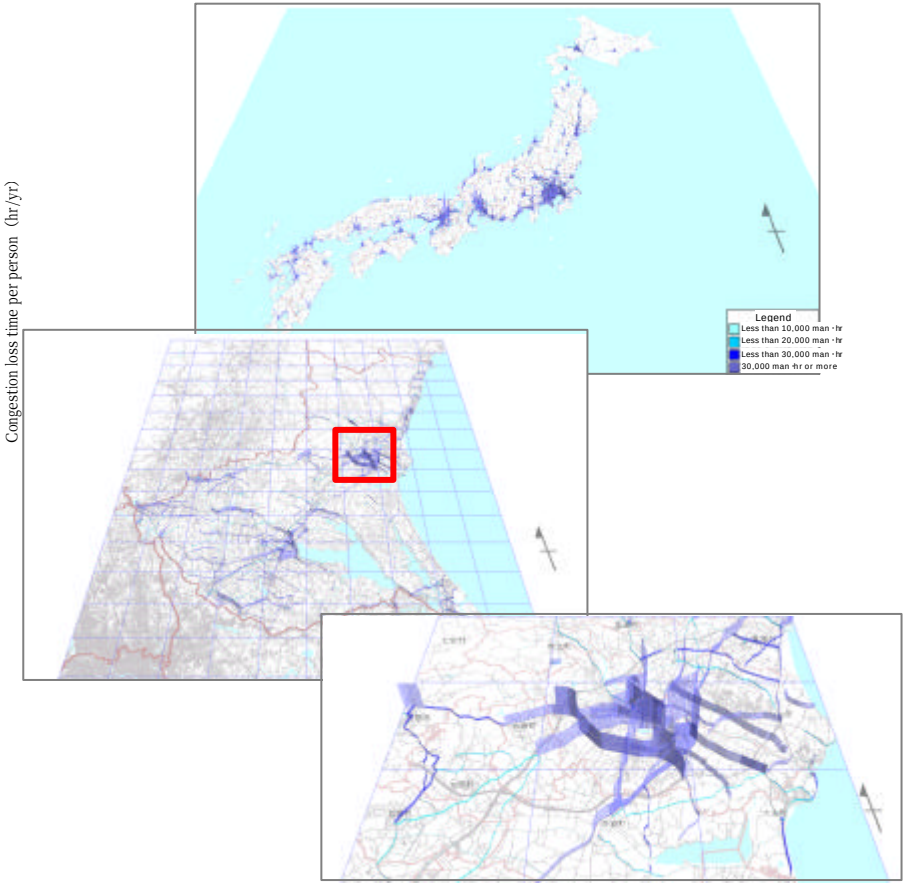
■ 【Indicator－1】 Time loss due to road congestion

Congestion time loss per person and per no. of vehicles owned by prefecture

“3D Congestion Map” for each nationwide, prefecture（baragi Prefecture）and urban area（Mito City）

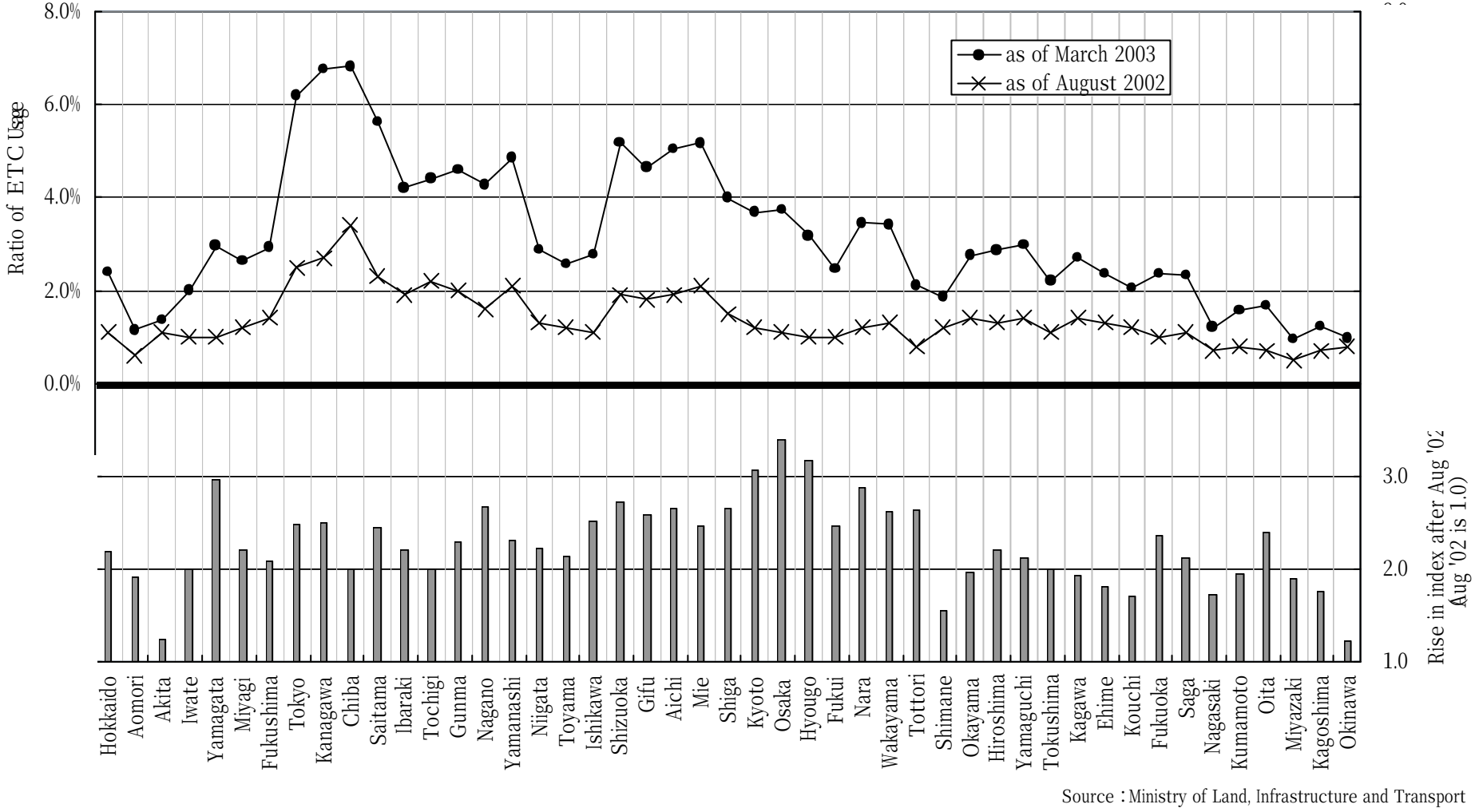


Source：Ministry of Land, Infrastructure and Transport
※However, the units of vehicle owned is from Japan Automobile Manufacturers' Association "Automobile Statistical Report, June 2002."
Population is from Ministry of Public Management, Home Affairs, Posts and Telecommunications "Population Census 2000."



■ [Indicator－2] Ratio of ETC usage

ETC usage ratio by prefecture (top) and increase in usage seen since August 2002(bottom)



Source：Ministry of Land, Infrastructure and Transport

5. Overview of the "Key Plan for Infrastructure Development"

■ Key Plan for Infrastructure Development Law

Approved on March 28, 2003, promulgated on March 31, 2003, and implemented on April 1, 2003

(jointly submitted by the National Police Agency, the Ministry of Agriculture, Forestry and Fisheries and the Ministry of Land, Infrastructure and Transport)

Measures for intensive, effective and efficient promotion of infrastructure development projects should be taken, including development of infrastructure development key plans.

Plans for 9 projects of different genres

- Roads
- Traffic safety facilities
- Airports
- Ports and harbors
- Urban parks
- Sewerage
- Flood control
- Steeply sloping ground
- Coasts

Integration

Shift to planning with emphasis on prioritization and integration

Note: 2002 and 2003 were the final years.
Plans in double frames have their own respective urgent measures laws.

Key Plan for Infrastructure Development

= The target period is five years, starting in fiscal 2003.

○ **Infrastructure development projects included in the Key Plan**

Roads, traffic safety facilities, railroads, airports, ports and harbors, route signs, parks and green areas, sewerage, rivers, sand control, landslides, steeply sloping ground, coasts (including projects and "software" measures and policies integrally implemented to enhance effectiveness of projects)

○ **Basic philosophy**

Thorough decentralization of power, consideration of effective use of local characteristics and private sector resources, etc.

○ **Plan items**

(1) Outline of the key targets and projects to be implemented for achievement of the targets

→ Outcome-based targets should be prioritized (total project cost should not be included).

(2) Measures for effective and efficient implementation of projects

→ Clarifying specific reform action policies for infrastructure development

- Seeking understanding and cooperation of local residents
- Ensuring linkage between projects
- Cost reduction
- Effective use of existing stock
- Appropriate bidding and contracting procedures, etc.

(3) Other items necessary for intensive, effective and efficient implementation of projects

<Process for development and implementation of plans>

Public involvement
Listening to opinions of local governments → Preparation of plan → Cabinet decision

- Re-examination of a plan during its implementation in order to incorporate changes in social and economic conditions should be made obligatory.
- Policy evaluation should be made.
- Systems related to a plan should be reviewed in the last year of the plan and necessary measures, if any, should be taken accordingly.

On October 10 the cabinet approved priority planning of infrastructure development based on the law for priority planning of infrastructure development (Law No 20, 2003) which passed the 156th regular Diet session in March 2003. The plan, which has a planning period of five years from 2003, puts together projects in nine areas (roads, facilities for traffic safety, airports, harbors, city parks, sewage, river improvement, steep locations, and beaches).

The full text of the priority planning for infrastructure development as approved by the cabinet and its reference materials can be seen on the Website of the Ministry of Land, Infrastructure and Transport (http://www.mlit.go.jp/kasha/kisha03/01/011009_.html).

Points of the "Key Plan for Infrastructure Development"

Following on from discussions arising from "the solid principles" established in June 2001 and "the reform and outlook" in January 2002, infrastructure development planning has been reformed for the first time in fifty years.

☐ **Target results as seen from the nation have been stipulated in the priority planning**

←Planning details have been switched from "project costs" of carrying out the work to "results to be achieved" as seen by the nation.

☐ **Reform principles for developing infrastructure have been determined in the priority planning**

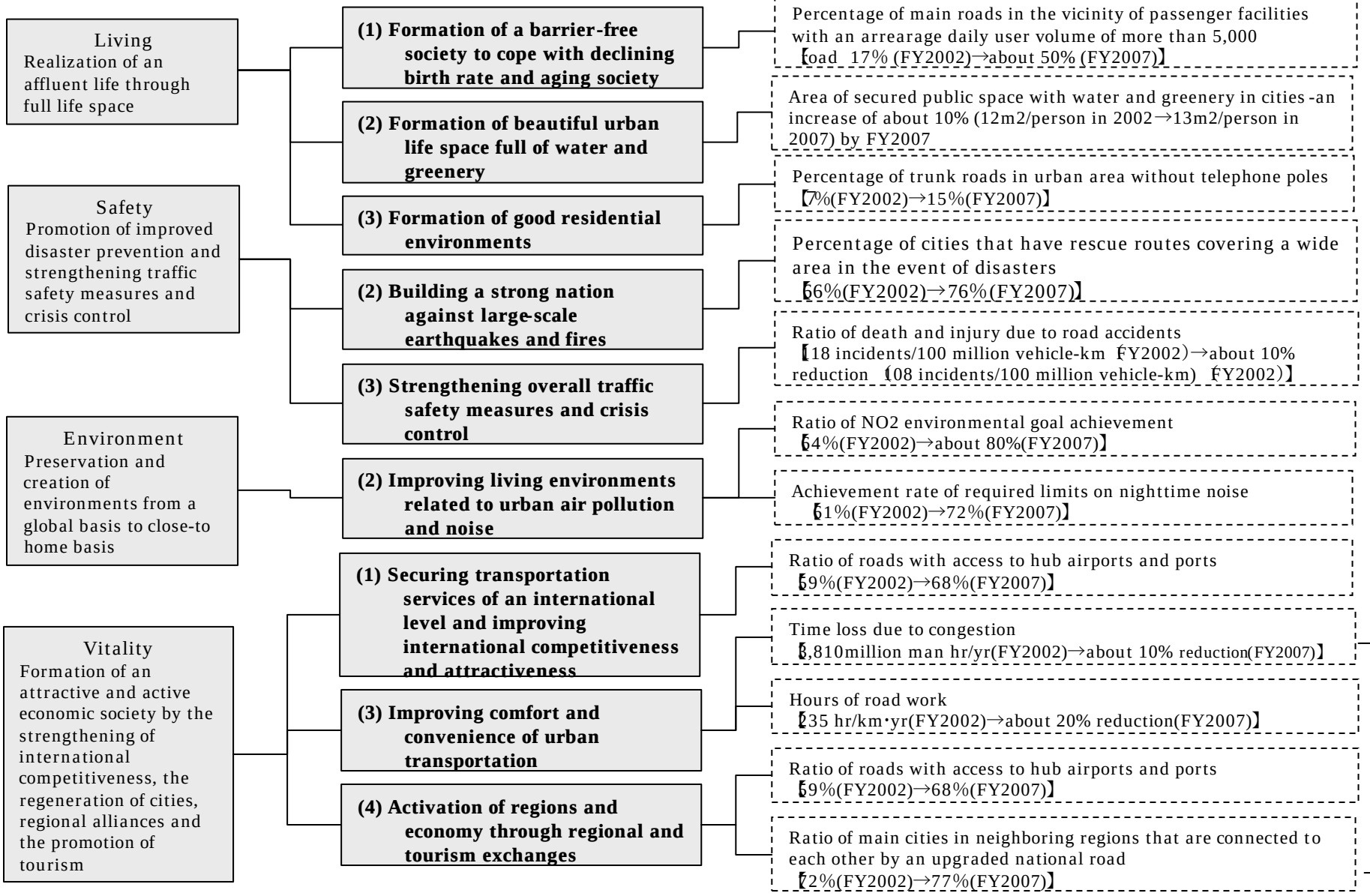
- **Strengthening project alliances.**
  ←Project planning for nine areas has been put together into one. Setting up transverse priority targets (for example, a greenery indicator that combines parks, roads, rivers, ports, and private properties into one).
- **Strengthening project alliances among ministries and agencies (for example, increasing the spread of sewage treatment in the nation, which is an issue common to the Ministry of Land, Infrastructure and Transport, the Ministry of Agriculture, Forestry and Fisheries and the Ministry of Environment).**
  ←Stating that issues will be tackled through alliances with the private sector and linking up soft measures with hardware.
- **Promoting the participation of residents from the stage of project conception.**
- **Significant reduction of costs.**
  ←For projects carried out by ministries and related corporations, costs of the work are to be reduced, standards are to be reviewed and projects undertaken more quickly to achieve a 15% reduction in total costs, excluding price changes.
- **Thorough implementation of Plan, Do, and See. Do away with waste. To be reflected in a distinctive budget.**
  ←Plan, do, and see the details of planning.
  ←For each project, strict implementation of integrated project evaluation from before to after the project. This includes evaluation at the time of adopting a new project, reevaluation of the project during implementation, and evaluation after completion.
- **Disclosure of information, including data. To be reflected in policies.**
- **Use of private capital, such as PFI, and its capabilities**
- **Improving the discretion of local autonomies in regard to national treasury aid.**

☐ **Priority planning will be used extensively as a means of dialogue among the country, local governments, and nation**

←Participation by the people and local governments in making plans has been authorized by law.

Priority Targets and Indicators in "Key Plan for Infrastructure Development"

(Indicators are shown in Chapter 2 "Priority targets for implementing infrastructure development projects and a summary of infrastructure development projects that need to be carried out effectively and efficiently to achieve them" and those that are related to roads have been extracted.)



6. Linking Outcome with Budget (Introduction of performance based budget)

【Objective】 Significance of Outcome-Based Public Management of Road Administration

① Improving road administrative efficiency = spreading "outcome-based" philosophy to all departments → reforming awareness of administrative employees
② Improving road administrative transparency = Disclosing cost on "outcome" → rebuilding the trust between public and administration

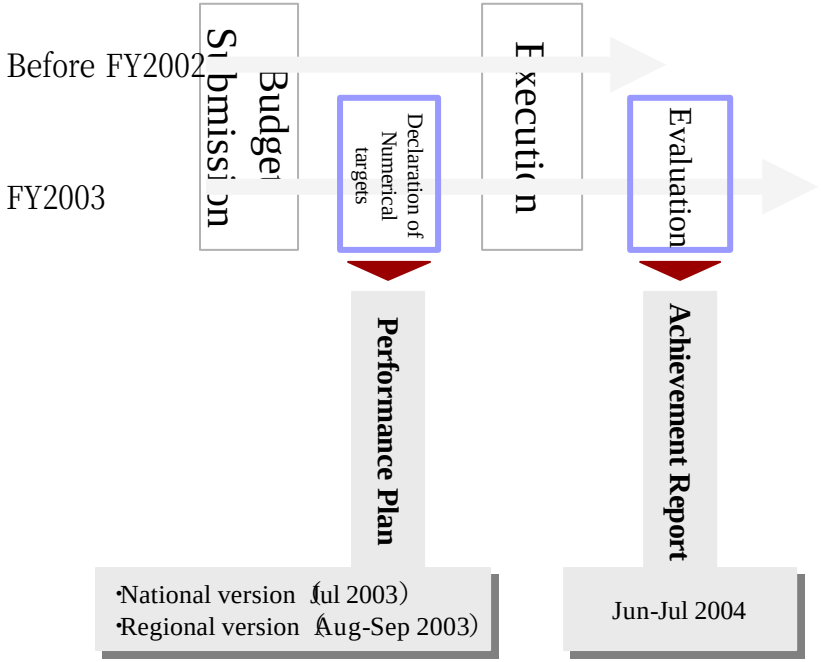
【Method】

①Construct "Cycle of Management" in which numerical targets are set every year, and the evaluation results are reflected

②Discretionary powers are given to the field office in exchange for strict evaluation of outcome

【Tasks for FY2003】 1st Stage

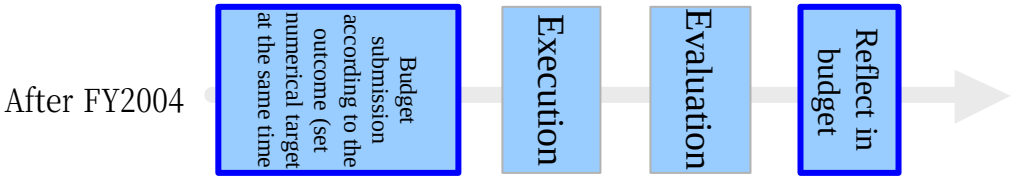
Specify the numerical targets for road administration start "outcome-based" public management



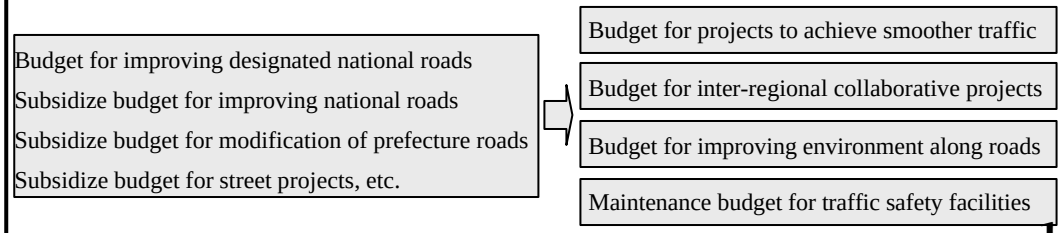
【Tasks for FY2004】 2nd Stage

Link the "Outcome" to the budget system and spending to advance "outcome-based" to the 2nd stage

① Introduction of "Outcome-purchasing type on budget operation" (specify the outcome target at the submissions stage)



②Shifting from "Budgeting by road type" to "Budgeting by performance" (concept image)

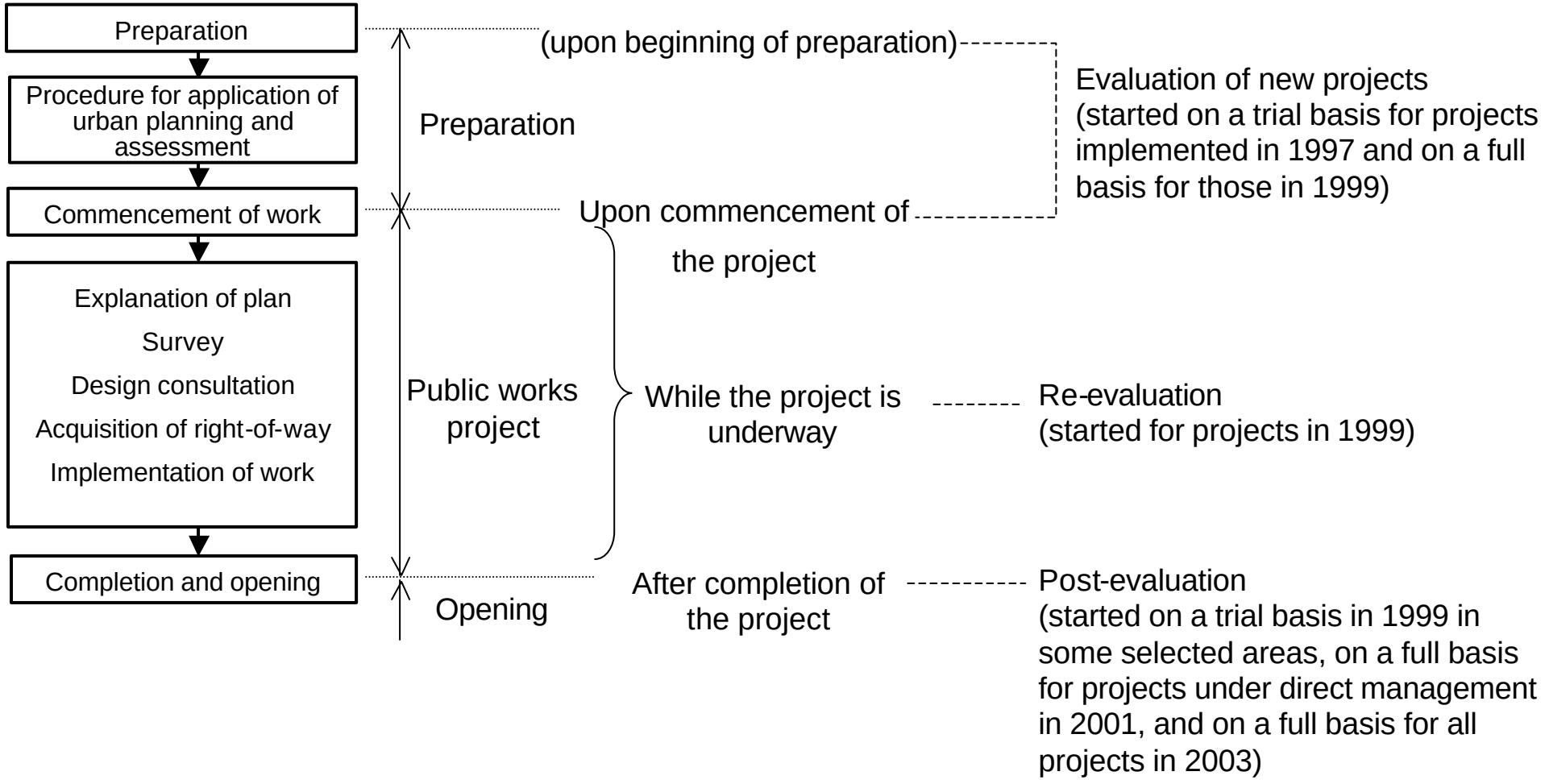


Outline of budgets considered performance targets

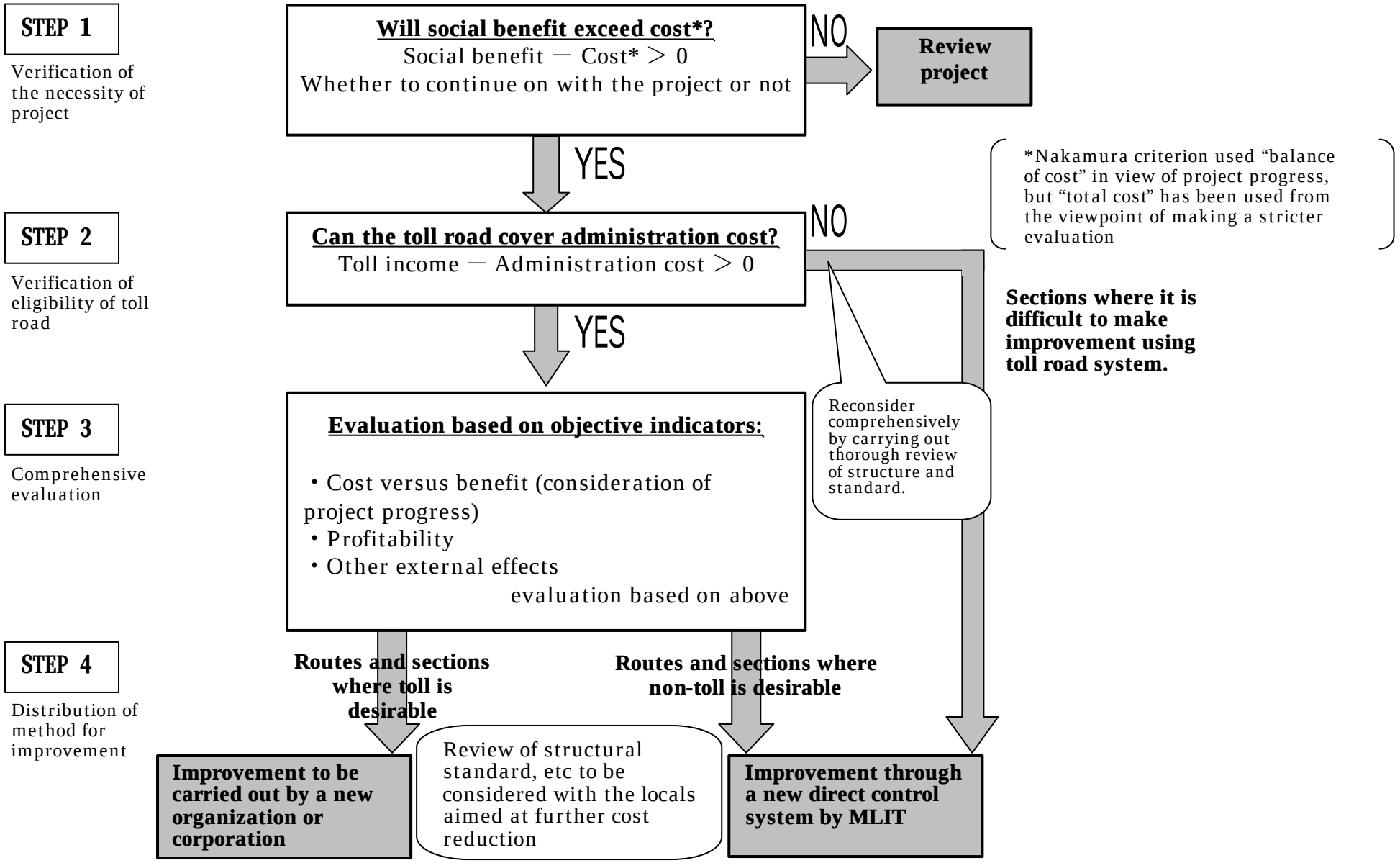
Items / Related Indicators	Requested amount for 2004 (Project cost) (A) Target amount for 2004	Budget amount for 2003 (Project cost) (B) Estimated amount for 2003
Project cost for smooth transportation	¥739.1 billion	¥756.3 billion
Time loss due to congestion	580 million man hr/yr	590 million man hr/yr
Project cost for regional alliance support	¥2,084.3 billion	¥2,229.1 billion
Ratio of high standard road usage	13% (New switchover to 2.9 million unit kilo/day)	13% (New switchover to 2.1 million unit kilo/day)
Ratio of roads with access to hub airports and ports	61% (access to 41 places)	61% (access to 40 places)
Ratio of main cities in neighboring regions that are connected to each other by an upgraded national road	74%	73%
Percentage of people able to have a safe and pleasant drive into the city, the center of daily life, in under 30 minutes	64%	64%
Maintenance and repair project cost	¥262.5 billion	¥276.3 billion
Percentage of cities that have rescue routes covering a wide area in the event of disasters	69%	68%
Road structure maintenance ratio bridge	88%	87%
Road structure maintenance ratio pavement	maintain current level	91%
Project cost for improving roadside environment	¥126.3 billion	¥106.8 billion
Ratio of NO_2 environmental goal achievement	70%	67%
Ratio of SPM environmental goal achievement	about 20%	about 10%
Achievement rate of required limits on nighttime noise	65%	63%
Project cost for improving transportation safety facilities	¥450.7 billion	¥435.2 billion
Ratio of death and injury due to road accidents	114 incidents/100 million vehicle-km	116 incidents/100 million vehicle-km
Percentage of main roads in the vicinity of passenger facilities with an average daily user volume of more than 5,000	27%	21%
Project cost for improving cable utility conduits	¥228.7 billion	¥222.8 billion
Percentage of trunk roads in urban area without telephone poles	10%	8%

7. Outline of Project Appraisal in Japan

■ Evaluation of new projects, projects in progress and post-completion projects



Evaluation Method for National Expressways



Concept of Appraisal of New Projects

■ When a new project is evaluated, the prerequisites as well as effects and needs should be analyzed using evaluation indexes that include a benefit-cost ratio.

Prerequisites of a project

- ☐ Efficiency of investment (Benefits must exceed cost.)
- ☐ Completion of survey (Routes must have been settled and their right-of-way must have been acquired.)
- ☐ Enabling environment (The environment to ensure smooth execution of a project must have been established.)

Evaluation of the effects and necessity of a project

[Indexes from the viewpoints of four policy themes]

1. Vitality - Recovery of economic vitality through urban restoration and regional linkage -
   - ☐ Example: It will form a circular road network in an urban area.
2. Living - Improvement of quality of life -
   - ☐ Example: It will help an area designated in the Traffic Barrier-free Law as an important development area become a barrier-free area.
3. Safety - Safe and secure living -
   - ☐ Example: It will make the road an emergency transport road.
4. Environment - Creation and preservation of the environment -
   - ☐ Example: It will reduce the level of noise.

(Evaluation indexes currently under review)

Summary of Project Evaluation Results for National Expressways

No.	Name of Route	Sections Evaluated	Length (km)	Construction Cost: Total Cost (¥100 million)	Construction Cost: Balance of Construction Cost (After 2003) (¥100 million)	Rate of Progress (%)	Traffic in the Future: In case of Toll Roads (Units/Day)	Traffic in the Future: In case of Non-Toll Roads (Units/Day)	Cost/Benefit (In case of Non-Toll Roads): Convenience / Total Cost	Profitability (Ratio of Amount of Investment Limit): Interest Rate for Borrowing 4% (%)	Profitability: (Marks b)	Cost versus Benefit (In case of Toll Roads): Benefit / Total Cost	Cost versus Benefit: Benefit / Balance of Construction Cost (After 2003)	Cost versus Benefit: (Marks a)	External Effect (In case of Toll Roads): Evaluation Method Committee Weighting (Marks c1)	External Effect: Local Governments Weighting (Marks c2)	External Effect: Privatization Committee Weighting (Marks c3)	Overall Evaluation (Toll Expressways): Evaluation Method Committee Weighting: Marks	Evaluation Method Committee Weighting: Group	Local Governments Weighting: Marks	Local Governments Weighting: Group	Privatization Committee Weighting: Marks	Privatization Committee Weighting: Group
1	Hokkaido Jukan Line	Nanae ～ Kunnui	78	2,503	1,825	27	3,800 ～ 4,900	9,900 ～ 15,700	4.2	10	44	1.6	2.1	48	63	60	62	52	B	53	B	51	B
2	Hokkaido Jukan Line	Shibetsukenbuchi ― Nayoro	24	374	369	1	2,100	5,000	2.3	–	37	1.0	1.0	45	38	38	37	40	D	39	D	40	D
3	Hokkaido Odan Line (Nemuro Line)	Yoichi ～ Otaru JCT	24	1,140	1,140	0	9,500 ～ 9,900	10,000 ～ 22,600	3.4	27	55	2.2	2.2	48	48	48	48	50	C	50	C	50	B
4	Hokkaido Odan Line (Nemuro Line)	Yubari ～ TokachiShimizu	81	2,761	2,634	5	5,100 ～ 5,800	6,600 ～ 7,500	2.7	16	48	2.1	2.2	48	61	61	63	53	B	54	B	52	B
5	Hokkaido Odan Line (Abashiri Line)	Ashoro ― Kitami	79	1,316	1,315	0	700 ～ 1,300	3,200 ～ 4,100	1.1	–	29	0.3	0.3	43	52	51	52	43	D	44	D	41	D
6	Hokkaido Odan Line (Nemuro Line)	Honbetsu ― Kushiro	65	1,851	1,849	0	2,600 ～ 4,100	4,900 ～ 5,600	2.2	8	43	1.5	1.5	46	51	49	52	47	C	47	C	47	C
7	Tohoku Odan Line (Kamaishi-Akita Line)	Tono ― Miyamori	9	253	253	0	3,600	8,500	3.2	8	43	1.8	1.8	47	37	38	39	42	D	42	D	43	D
8	Tohoku Odan Line (Kamaishi-Akita Line)	Miyamori ～ Towa	24	856	845	1	4,600	9,300 ～ 11,000	2.3	11	45	1.4	1.5	46	40	40	40	44	D	43	D	44	D
9	Nihonkai-engan Tohoku Line	Nakajo ― Asahi	30	1,339	1,178	12	2,800 ～ 4,300	9,200 ～ 9,900	2.3	5	41	1.1	1.2	45	57	59	55	49	C	51	B	47	C
10	Nihonkai-engan Tohoku Line	Atsumi ― Tsuruoka JCT	26	1,243	1,172	6	1,800	7,500	1.7	–	37	0.5	0.5	44	44	45	44	42	D	43	D	41	D
11	Nihonkai-engan Tohoku Line	Honjo ― Iwaki	21	936	834	11	2,600	9,300	3.0	1	39	1.0	1.1	45	46	45	46	44	D	44	D	43	D
12	Nihonkai-engan Tohoku Line	Odate-kita ～ Kosaka JCT	14	843	814	3	4,300	4,800	1.4	6	42	1.0	1.1	45	29	30	29	39	D	37	D	39	D
13	Tohoku Chuo Line	Fukushima JCT ～ Yonezawa	28	1,740	1,687	3	5,400 ～ 6,500	6,500 ～ 11,600	2.2	9	44	1.1	1.1	45	50	50	50	47	C	47	C	46	C
14	Tohoku Chuo Line	Yonezawa ― Yonezawa-kita	9	395	395	0	3,800	9,700	3.3	6	42	1.0	1.0	45	42	41	42	43	D	42	D	43	D
15	Tohoku Chuo Line	NanyoTakahata ～ YamagataKamin	24	1,149	1,149	0	9,700	9,700 ～ 18,000	4.0	27	55	3.1	3.1	50	43	41	43	49	C	47	C	50	C
16	Tohoku Chuo Line	Higashine ～ Obanazawa	23	903	893	1	5,500 ～ 6,800	13,200 ～ 15,100	3.1	16	48	2.1	2.1	47	47	47	47	48	C	47	C	47	C
17	Joban Line	Tomioka ～ Shinchi	55	1,967	1,787	9	6,000 ～ 7,000	13,100 ～ 15,700	3.7	24	53	1.5	1.6	46	59	59	61	52	B	54	B	53	B
18	Joban Line	Shinchi ― Yamamoto	16	494	494	0	6,800	15,200	8.1	28	56	2.6	2.6	49	47	47	48	50	C	49	C	51	B
19	Joban Line	Yamamoto ～ Watari	12	459	344	25	9,300	15,600	7.1	32	58	3.2	4.2	52	44	43	44	51	B	49	C	52	B
20	Higashi Kanto Line (Mito Line)	Misato ～ Koya JCT	20	11,384	9,529	16	34,100 ～ 47,500	58,600 ～ 83,500	1.6	11	45	1.3	1.5	46	64	64	64	52	B	55	B	51	B
21	Higashi Kanto Line (Mito Line)	Hokota ～ Ibaragi JCT	17	682	674	1	3,700 ～ 4,300	7,300 ～ 14,600	3.6	10	44	1.4	1.4	46	58	59	57	50	C	52	B	49	C
22	Higashi Kanto Line (Tateyama Line)	Kimitsu ― FuttsuTakeoka	16	800	367	54	14,900 ～ 15,700	16,000 ～ 22,200	6.1	47	67	6.7	13.1	73	46	47	46	62	A	59	A	63	A
23	Kita Kanto Line	Isesaki ― Imafune JCT	39	2,741	2,088	24	22,500 ～ 30,500	38,200 ～ 74,600	11.6	62	76	6.8	8.7	63	67	68	69	68	A	68	A	70	A
24	Kita Kanto Line	UtsunomiyaKaminokawa ～ Tomobe	41	1,912	1,494	22	10,200 ～ 14,900	25,800 ～ 38,800	6.7	39	62	3.2	3.9	52	71	75	72	61	A	65	A	61	A
25	Tokai-Hokuriku Line	HidaKiyomi ～ Shirakawago	26	1,814	1,102	39	6,200	8,500	2.3	10	44	1.7	2.7	49	48	46	48	47	C	46	C	47	C
26	Second Tokai Line	Ebina-minami JCT ― Hadano	21	7,951	7,424	7	23,300 ～ 61,800	53,900 ～ 115,600	5.9	21	51	2.9	3.1	50	56	53	56	52	B	52	B	52	B
27	Second Tokai Line	Hadano ― Gotenba JCT	33	5,677	5,677	0	55,600 ～ 57,600	107,200 ～ 113,100	8.4	51	69	3.6	3.6	51	51	48	52	56	A	54	B	58	A
28	Second Tokai Line	Gotenba JCT ～ NagaizumiNumadu	14	2,795	2,044	27	44,100	112,700	13.9	33	58	5.7	7.6	61	38	37	39	52	B	48	C	54	B
29	Second Tokai Line	NagaizumiNumadu ～ Yoshiwara J	44	9,162	4,821	47	42,800 ～ 46,200	114,500 ～ 117,200	10.5	34	59	3.7	6.7	58	34	35	35	50	C	47	C	52	B
30	Second Tokai Line	Yoshiwara JCT ～ Inasa JCT	89	16,173	8,474	48	47,700 ～ 50,300	89,500 ～ 107,500	8.9	42	64	3.5	6.3	57	56	55	58	59	A	58	A	60	A
31	Second Tokai Line	Inasa JCT ― Toyoda-higashi	57	6,860	6,621	3	44,000 ～ 45,700	91,000 ～ 95,200	8.4	57	73	3.2	3.3	50	44	43	45	54	B	52	B	57	A
32	Second Tokai Line	Toyoda JCT ～ Toyoda-minami	7	1,243	329	74	53,600	63,400	12.5	51	70	10.5	33.1	120	41	38	40	79	A	68	A	80	A
33	Chubu Odan Line	Yoshiwara JCT ～ Masuho	59	4,341	4,323	0	6,600 ～ 7,800	15,300 ～ 21,400	2.4	13	46	1.6	1.6	46	70	72	71	55	B	59	A	53	B
34	Chubu Odan Line	Masuho ～ WakakusaKushigata	6	364	195	46	5,900	23,000	6.0	12	45	2.5	4.5	53	49	50	48	50	C	50	C	49	C
35	Chubu Odan Line	Yachiho ― Saku-minami	15	583	583	0	5,400	14,600	3.5	14	47	2.0	2.0	47	40	42	40	45	D	44	D	45	C
36	Chubu Odan Line	Saku-minami ～ Saku JCT	8	544	479	12	4,500	5,000	1.7	6	42	1.7	1.9	47	39	41	38	43	D	43	D	43	D
37	Kinki Line (Kisei Line)	Minabe ～ Shirahama	20	1,196	1,126	6	4,500 ～ 11,700	13,900 ～ 17,600	2.5	16	48	1.6	1.7	47	63	63	61	53	B	55	B	51	B
38	Kinki Line (Kisei Line)	Shirahama ― Susami	24	1,323	1,323	0	2,800 ～ 4,600	4,300 ～ 10,500	1.7	4	41	1.0	1.0	45	58	58	56	49	C	51	B	47	C
39	Kinki Line (Kisei Line)	Owase-kita ― Kisei	31	1,661	1,652	1	5,500 ～ 6,900	8,500 ～ 9,400	2.4	14	47	2.2	2.2	48	66	64	67	54	B	56	A	53	B
40	Kinki Line (Kisei Line)	Kisei ～ SeiwaTaki JCT	24	1,054	675	36	5,900 ～ 12,200	12,300 ～ 14,400	5.4	29	56	4.4	6.6	58	57	55	55	57	A	56	A	56	A
41	Kinki Line (Nagoya-Kobe Line)	Yokkaichi JCT ～ Komono	14	1,726	1,721	0	43,500 ～ 45,500	50,000 ～ 57,700	9.0	50	69	4.8	4.8	54	40	40	40	53	B	50	B	55	A
42	Kinki Line (Nagoya-Kobe Line)	Komono ～ Kameyama JCT	18	2,450	2,450	0	42,600	78,900	8.5	48	68	4.2	4.2	53	35	35	36	50	C	47	C	53	B
43	Kinki Line (Nagoya-Kobe Line)	Kameyama JCT ― Otsu JCT	41	5,737	3,370	41	45,500 ～ 49,300	83,600 ～ 92,200	10.4	57	73	4.7	7.5	60	53	53	53	61	A	60	A	63	A
44	Kinki Line (Nagoya-Kobe Line)	Otsu JCT ～ Joyo	25	5,151	5,110	1	51,800 ～ 51,900	111,600 ～ 116,100	6.7	39	62	2.2	2.3	48	44	43	44	50	C	49	C	52	B
45	Kinki Line (Nagoya-Kobe Line)	Joyo ～ Takatsuki-dai-ichi JCT	14	7,393	7,231	2	32,900 ～ 54,000	69,800 ～ 109,500	4.6	13	46	2.2	2.3	48	43	44	43	46	C	45	C	46	C
46	Kinki Line (Nagoya-Kobe Line)	Takatsuki-dai-ichi JCT ～ Kobe	40	8,854	8,803	1	34,600 ～ 42,600	46,100 ～ 73,600	2.6	28	55	1.2	1.2	45	47	48	46	48	C	49	C	49	C
47	Kinki Line (Nagoya-Osaka Line)	Nagoya-minami ― Takabari JCT	12	3,194	2,788	13	16,900 ～ 41,400	33,400 ～ 97,000	2.7	17	49	2.0	2.3	48	43	43	42	46	C	46	C	47	C
48	Kinki Line (Nagoya-Osaka Line)	Kameyama ～ Kameyama-minami JC	3	383	161	58	24,400	26,400	4.1	29	56	3.5	7.8	61	26	27	26	47	C	43	D	49	C
49	Kinki Line (Tsuruga Line)	Obama-nishi ～ Tsuruga JCT	50	3,077	2,959	4	4,600 ～ 8,200	6,000 ～ 20,200	2.9	12	45	1.8	1.9	47	71	70	71	55	A	58	A	53	B
50	Chugoku Odan Line (Himeji-Tottori Line)	Harimashingu ～ Yamazaki JCT	12	614	614	0	7,400	7,600	3.4	18	50	3.3	3.3	50	39	39	40	46	C	44	D	47	C
51	Chugoku Odan Line (Himeji-Tottori Line)	Sayo JCT ― Ohara	19	828	685	17	3,800 ～ 4,300	4,400 ～ 7,900	1.9	8	43	1.4	1.6	46	43	45	44	45	D	45	D	44	D
52	Chugoku Odan Line (Himeji-Tottori Line)	Chidu ～ Tottori	24	1,202	1,100	8	3,800 ～ 4,000	13,300 ～ 15,300	2.3	6	42	0.9	1.0	45	62	64	60	50	B	54	B	48	C
53	Chugoku Odan Line (Okayama-Yonago Line)	Yonago ～ Yonago-kita	5	147	147	0	1,800	4,900	1.9	–	37	0.7	0.7	44	38	39	39	40	D	40	D	40	D
54	Chugoku Odan Line (Onomichi-Matsue Line)	Onomichi JCT ～ Miyoshi JCT	50	2,181	1,962	10	2,800 ～ 3,300	7,900 ～ 10,200	1.1	5	41	0.5	0.6	44	54	56	54	47	C	49	C	46	C
55	Chugoku Odan Line (Onomichi-Matsue Line)	Miyoshi JCT ― MitoyaKisuki	61	2,341	2,293	2	3,100 ～ 4,000	6,600 ～ 12,800	1.3	6	42	0.9	0.9	45	49	51	48	46	C	47	C	45	D
56	San-in Line	Shinji JCT ― Izumo	18	884	813	8	3,700 ～ 4,900	5,600 ～ 15,100	2.6	7	42	1.5	1.6	46	52	53	52	47	C	49	C	46	C
57	Shikoku Odan Line	Anan ～ Komatsushima	10	463	463	0	7,800	22,800	9.9	22	52	4.7	4.7	54	56	57	57	54	B	56	A	54	B
58	Shikoku Odan Line	Komatsushima ～ Tokushima JCT	12	1,609	1,603	0	8,000 ～ 8,300	17,200 ～ 17,500	2.3	8	43	1.4	1.4	46	54	55	54	48	C	50	B	47	C
59	Shikoku Odan Line	Tokushima ― Tokushima JCT ―	11	1,328	1,324	0	5,200 ～ 5,300	6,100 ～ 13,700	2.5	5	41	1.6	1.6	46	48	49	49	46	C	47	C	45	C
60	Shikoku Odan Line	SusakiShinjo ～ Kubokawa	22	1,044	1,022	2	4,100 ～ 5,100	8,200 ～ 9,000	2.2	9	44	1.1	1.1	45	52	51	49	47	C	48	C	46	C
61	Shikoku Odan Line	Uwajima-kita ～ Uwa	16	700	650	7	4,100 ～ 5,100	6,400 ～ 12,100	2.7	12	46	1.5	1.6	46	52	52	50	48	C	49	C	47	C
62	Kyushu Odan Line (Nobeoka Line)	Kahima JCT ～ Yabe	23	774	768	1	3,400	5,600	1.7	8	43	1.3	1.3	46	52	52	52	47	C	48	C	47	C
63	Higashi Kyushu Line	Ogura JCT ― Toyotsu	24	1,653	1,361	18	12,600 ～ 16,800	17,100 ～ 25,100	3.8	31	57	2.9	3.4	51	46	46	45	51	B	50	C	51	B
64	Higashi Kyushu Line	Shiida-minami ― Usa	28	1,052	1,052	0	7,900 ～ 9,400	12,100 ～ 15,200	3.9	30	57	2.3	2.3	48	44	44	44	48	C	48	C	50	C
65	Higashi Kyushu Line	Tsukumi ～ Kamae	33	1,704	1,590	7	3,300 ～ 7,800	8,100 ～ 13,900	3.4	11	45	2.2	2.4	48	54	54	54	49	C	50	B	49	C
66	Higashi Kyushu Line	Kamae ～ Kitagawa	26	1,063	1,063	0	3,100 ～ 3,500	6,300 ～ 8,700	3.3	5	42	1.2	1.2	45	64	61	62	51	B	53	B	49	C
67	Higashi Kyushu Line	Kadokawa ― Saito	59	2,279	2,097	8	6,200 ～ 9,400	16,100 ～ 20,900	5.2	29	56	2.8	3.1	50	63	61	62	56	A	57	A	56	A
68	Higashi Kyushu Line	Kiyotake JCT ～ Kitago	19	870	866	0	5,600	9,200	3.4	13	46	1.9	1.9	47	49	48	47	47	C	48	C	47	C
69	Higashi Kyushu Line	Kitago ～ Nichinan	9	233	233	0	5,000	13,800	5.4	22	52	2.3	2.3	48	55	56	54	51	B	53	B	51	B
70	Higashi Kyushu Line	Shibushi ～ SueyoshiTakarabe	48	1,616	1,577	2	2,300 ～ 4,600	5,500 ～ 10,900	2.2	10	44	1.4	1.4	46	64	65	67	52	B	55	B	51	B

○Construction cost
Based on the cost-cutting plan of March 2003, balance of construction cost after 2003 has been cut by an average of 20%.

○Rate of Progress
Ratio of project cost spent to the end of fiscal year 2002 to total project cost.

○ Traffic in the future, cost versus convenience, and external effects
In case of toll roads: If all of 9,342km in the improvement plan are treated as toll roads.
In case of non-toll roads: If the planned section of 7,343km is made available as toll roads up to 2003 and if the remaining section of 1,999km in the improvement plan is treated as non-toll road.

○ Profitability
Ratio of amount of investment limit means the ratio of construction cost that could be repaid with toll income.
"–" means the section that cannot cover administration cost with toll income.

○ Cost versus Benefit
Total construction cost: cost versus benefit calculated from the total construction cost.
Balance of construction cost (after 2003): cost versus benefit calculated from balance of construction cost taking into account rate of progress.

○ Marks
Deviation has been calculated in regard to cost versus convenience and profitability. (Ratio of amount of investment limit)
As for external effects, this is a deviation calculated by placing weighting based on each mark (deviation) for 15 indicators.
(But the privatization committee found the value by setting 1/15 across the board, because weighting for each external effect indicator has not been set.)

○ Evaluation Method Committee: Study Committee on Evaluation Method
Local Governments: Governors of Tokyo, Hokkaido, and all the Prefectures and mayors of ordinance designated cities.
Privatization Committee: Committee for the Promotion of Privatization of Four Road-related Corporations

○ Weighting for each case

	In case of toll road: Evaluation Method Committee Weighting	Local Governments Weighting	Privatization Committee Weighting
α (Cost/Benefit)	0.395	0.276	0.361
β (Profitability)	0.247	0.227	0.357
γ (External effect)	0.358	0.497	0.282

○Comprehensive Evaluation
Following explains the thinking in relation to "group".

Marks over 55 ……… A
Marks over 50 and less than 55 ……… B
Marks over 45 and less than 50 ……… C
Marks less than 45 ……… D

Total evaluation marks
= α × cost versus convenience marks (a) + β × profitability marks (b) + γ × external effect marks (c)
(but α + β + γ = 1)

8. Data-oriented performance management by National Highway Offices

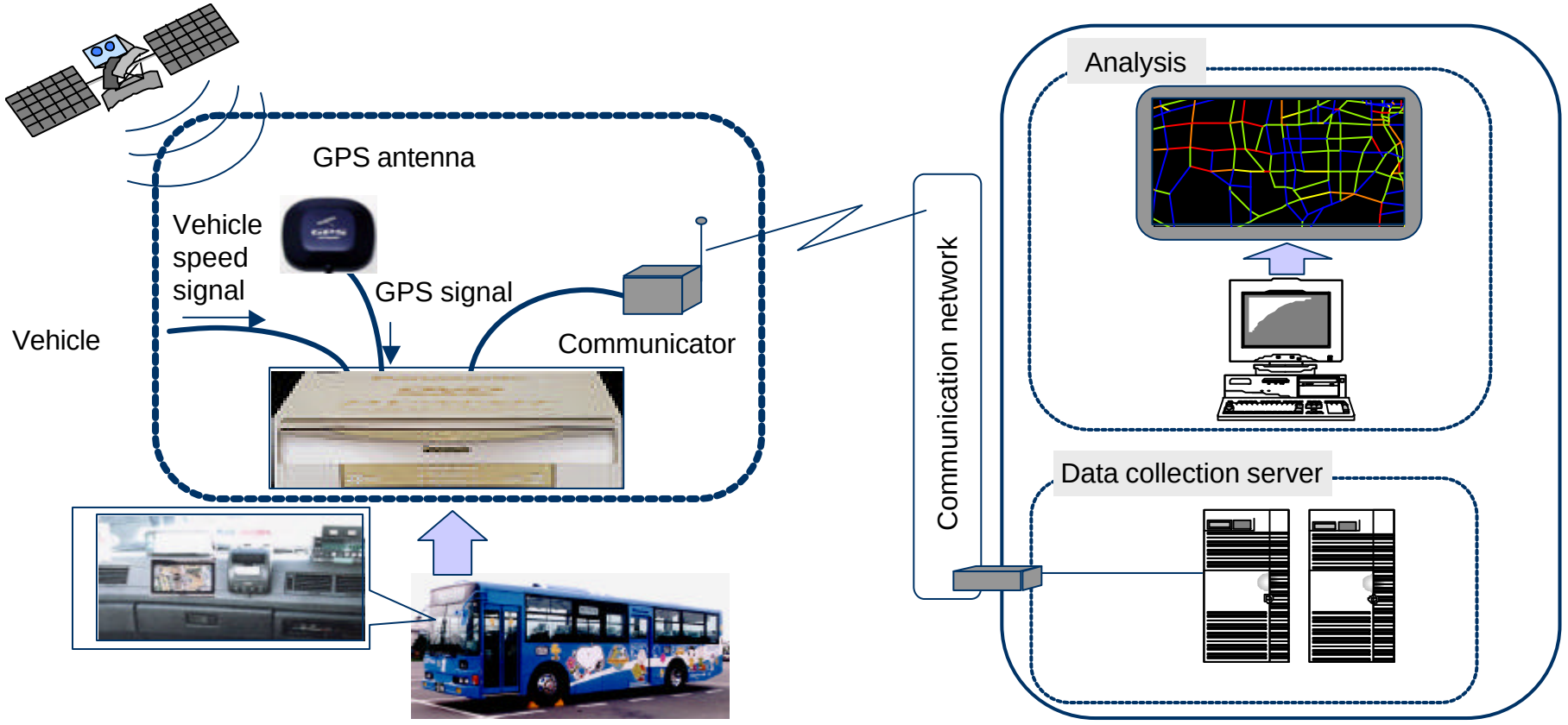
Holding Sheet of Current Status by Routes and Sections Using Outcome Indicators
(Section being managed by MLIT directly)

Name of Regional Bureau		Work Office			Person in Charging			Filled Out By				Telephone No.			
Length of Section Managed		295.4 km				Congestion					Accidents				
Name of Route	Location of Relevant Project	Prefectural Code	Census Section No.	Length	Traffic Volume in 1999 Census	Traffic Volume used to Calculate Congestion Loss	Amount Lost Due to Congestion	Amount Lost Due to Congestion per 1km	Amount Lost Due to Congestion per vehicle-km	Obtained Level of Data [1)]	Traffic Volume Used to Calculate Death & Injury Ratio	NO. of Death & Injury Accidents	Ratio of Death & Injury Accidents	No. of Deaths	Ratio of Traffic Accident Deaths
				km	vehicle/12 hr	vehicle/12 hr	¥1 million/yr	¥1 million/yr･km	¥/vehicle-km		vehicle/24 hr	cases/yr	cases/100 million vehicle-km	person/yr	person/100 million vehicle-km
Route 7		15000	1001	0.9	45,568	45,568	764.0	848.0	51.0	2	63,105	41	197.78	0	0.00
Route 7		15000	1002	0.5	39,345	39,345	793.0	1,587.0	110.4	2	54,296	17	171.56	0	0.00
Route 7		15000	1003	0.9	31,007	31,007	981.0	1,090.0	96.3	1	42,790	35	248.99	0	0.00
Route 7		15000	1004	0.8	36,209	36,209	794.0	992.0	75.1	1	49,968	24	164.49	1	6.85
Route 7		15000	1005	0.9	46,003	46,003	225.0	250.0	14.9	1	63,484	26	124.67	1	4.80
Route 7		15000	1006	0.6	59,160	59,160	3,005.0	5,008.0	231.9	1	81,641	6	33.56	0	0.00
Route 7		15000	1007	2.3	92,646	92,646	2,947.0	1,281.0	37.9	1	124,146	22	21.11	0	0.00
Route 7		15000	1008	2.8	66,202	66,202	4,093.0	1,462.0	60.5	1	88,711	24	26.47	0	0.00
Route 7		15000	1009	1.3	62,773	62,773	3,900.0	3,000.0	130.9	1	83,488	7	17.67	0	0.00
Route 7		15000	1010	2.0	71,583	68,505	2,641.0	1,321.0	52.8	1+	95,359	10	14.37	0	0.00
Route 7		15000	1011	2.6	63,988	63,988	2,069.0	796.0	34.1	1	85,104	19	23.53	0	0.00
Route 7		15000	1012	2.9	46,279	46,279	0.0	0.0	0.0	1	61,551	12	18.42	0	0.00
Route 7		15000	1013	1.9	47,086	47,086	245.0	129.0	7.5	1	62,624	2	4.61	0	0.00
Route 7		15000	1014	2.1	44,371	44,371	0.0	0.0	0.0	1	59,013	5	11.05	0	0.00
Route 7		15000	1015	1.8	29,147	29,147	0.0	0.0	0.0	1	38,766	6	23.56	1	3.93
Route 116		15000	1122	1.9	14,398	14,398	300.0	158.0	30.0	2	19,869	26	188.69	0	0.00
Route 116															
Route 116															
Route 116		15000	11119	1.1	14,343	14,343	36.0	33.0	6.3	1	19,793	0	0.00	0	0.00
Route 116		15000	11120	1.3	19,365	19,365	0.0	0.0	0.0	1	26,724	3	23.66	0	0.00
Route 116		15000	11121	1.9	22,569	22,569	705.0	371.0	45.0	1	31,145	2	9.26	0	0.00
Route 116		15000	11122	1.4	31,246	31,246	911.0	651.0	57.1	1	43,119	3	13.62	0	0.00
Route 116		15000	11123	0.8	46,060	46,060	453.0	567.0	33.7	1	63,563	6	32.33	1	5.39
Route 116		15000	11124	1.5	60,605	60,605	1,954.0	1,303.0	58.9	1	83,635	15	32.76	0	0.00
				50.8	18,615	18,615	11,646.0	229.3	67.5	0	25,732	379	79.43	5	1.05
				295.4	18,356	18,356	63,062.0	213.5	63.7	0	24,907	1,488	55.41	37	1.38

※Figures in this chart are just imagery and do not represent actual sections or locations

<Reference> Outline of "Probe Car Survey"

- Real-time collection of running speed data by route
- Summation of daily real-time data by weekday/weekend, type of car, direction, etc. allows calculation of the outcome indicators and application to project evaluation.



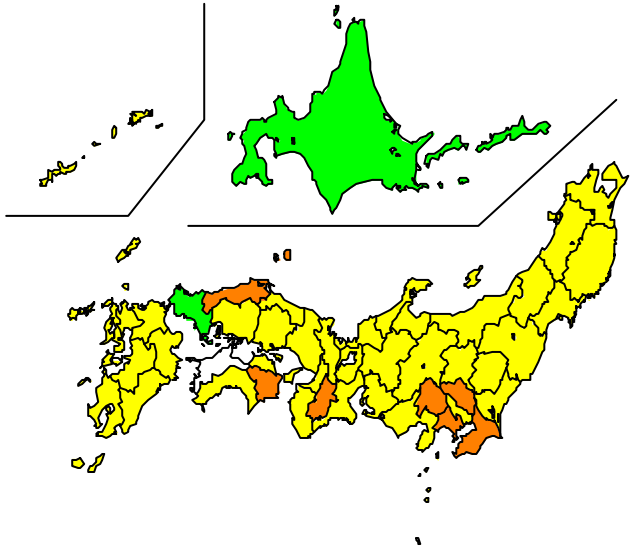
9. Improving Accountability and Consumer Satisfaction

Customer Satisfaction (CS)

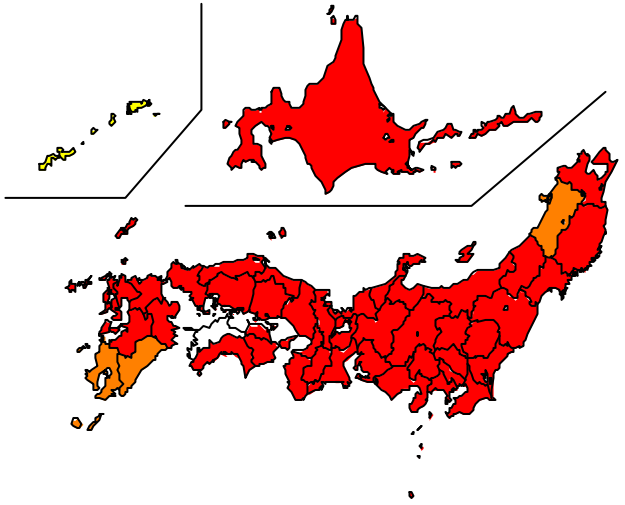
The concept of CS should be applied to road administration; an investigation to understand the level of user satisfaction, in which the level of satisfaction of road users, or the customers of roads, is evaluated in five stages, has been conducted since 2002

▼**Period**：May 15 to June 8, 2003
▼**No. of respondents**：about 37,000
▼Themes of the user satisfaction survey
①Satisfaction with regard to roads in general
②Satisfaction by type of road
③Satisfaction by type of measure, such as congestion or traffic safety, etc.
④Satisfaction with regard to road administration

Satisfaction with regard to roads one often uses in general
(Nationwide：2.6)

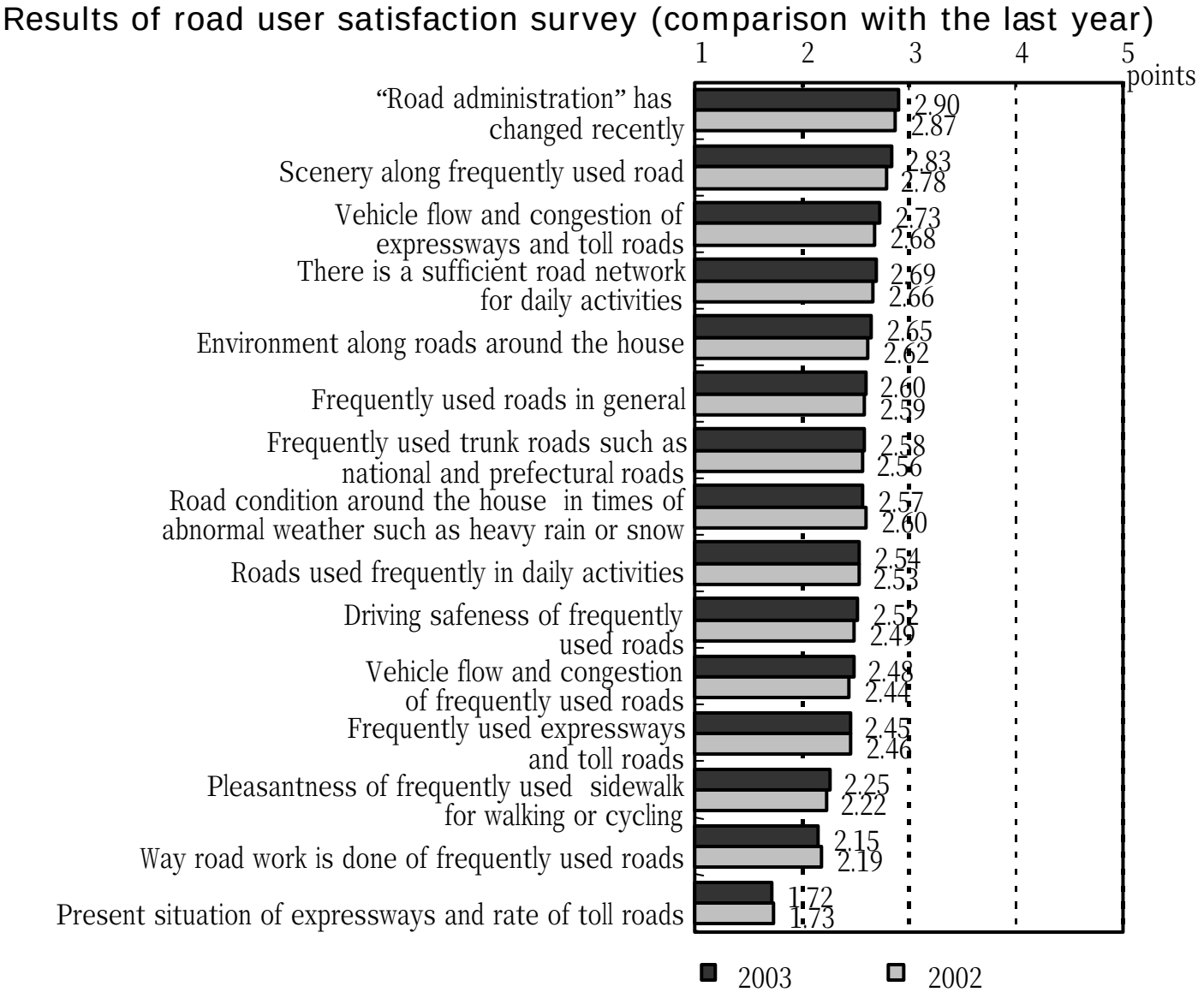


Satisfaction with regard to toll road rates
(Nationwide：1.7)



※Basically, evaluation by 5 levels, from 5 points (very satisfied) to 1 point (very unsatisfied)

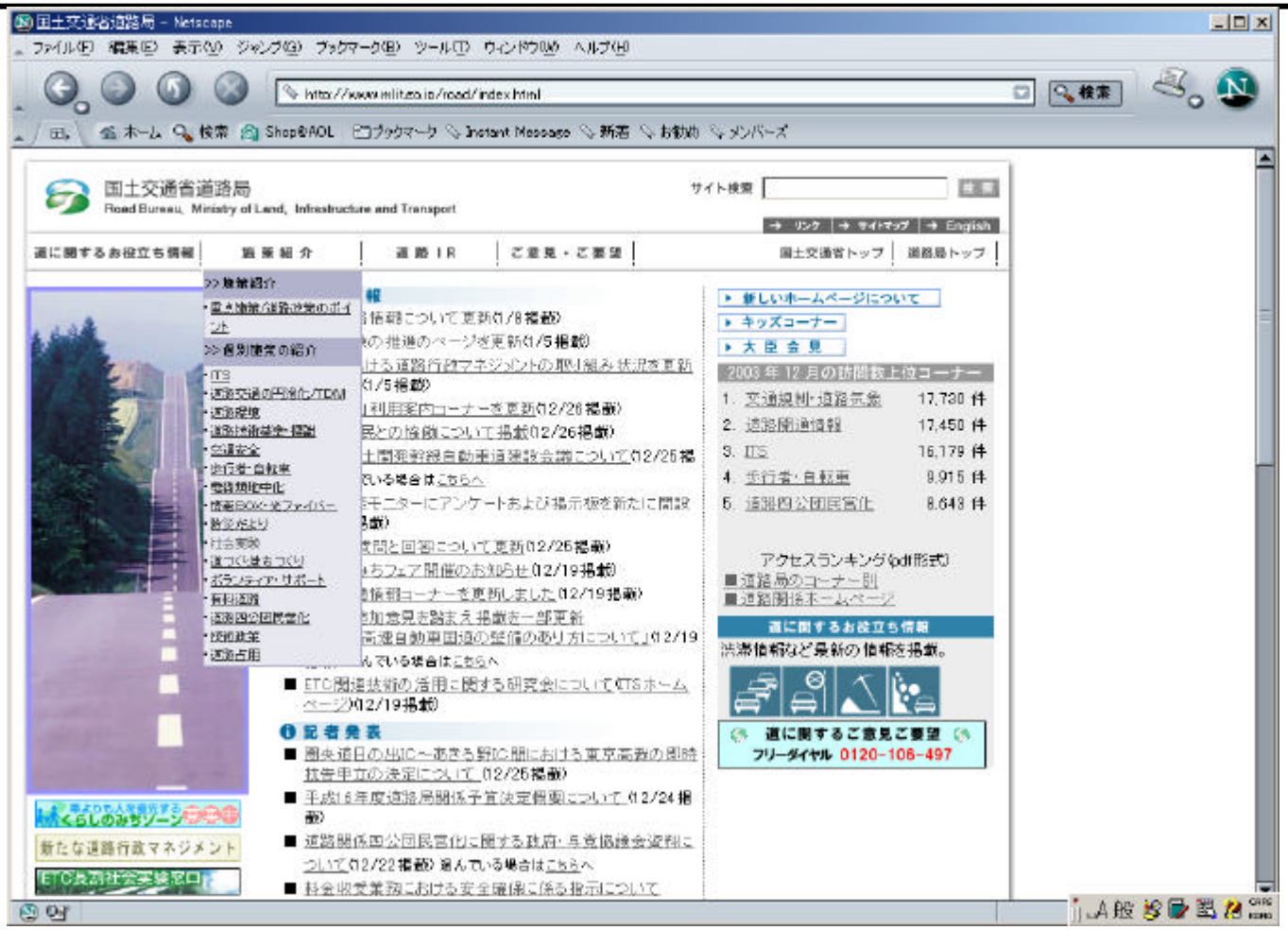
Comparison of 2002 and 2003 Results



10. Performance of Disclosing Information Using the Internet through Means Such as Websites

- "Performance of disclosing of information" was adopted as one of the indicators to indicate the level of achievement of road administration.

  The target is 100 million hits per year (roughly one hit by each citizen) in 2007.
- The benchmarking technique, which discloses actual hits per office, was adopted.



11. Issues for outcome-oriented road administration

-- departure from the idea that plans with indicators automatically make administration "outcome-oriented " --

The first step :
measurement

Measure outcomes using indicators

To formulate performance plan and performance report by measuring outcomes using indicators and setting annual numerical target being aware that measurement itself is only a part of outcome-oriented administration.

The second step :
diagnosis
representation

Gather materials (visual contents or databases) for consciousness for outcome-oriented administration

To gather best practices to share them with all worksites all over the country, and to order data with which every work office became able to make diagnoses with numerical data representing actual situation instead of business instincts of persons responsible.

The third step :
decision
management

Build in "outcome-oriented" consciousness into routine procedures

To change consciousness of staffs into outcome-oriented by building outcome-oriented activities in budget request, execution plan or other annual routine procedures.

The forth step :
communication

Communicate strategically

To establish communication with publics based on the facts representing the revolution of road administration, utilizing several measures including human networks between staffs and opinion leaders. Not be vain of revolution itself excursively.