Theme 2

Seamless Transfer and Integration

The main purpose of the projects under this theme is to offer an accessible, integrated, inclusive, safe and comfortable transport system to residents of Istanbul and to promote a shift to using public transport.

The expansion of Istanbul's rail network has changed the behaviour of public transport users in Istanbul. Previously, passengers had to access the nearest bus station to begin their journey, now they can use the nearest rail station. This change has created a significant accessibility issue that is known as a first/last mile problem. The opportunity to address this issue is increasing with every new Metro line, given the spatial distribution of the population in Istanbul adjacent to rail stations. Only one-third of Istanbul citizens live within 500 metres of a station and around 90% live within 3 kilometres. Therefore, introducing first/last-mile accessibility solutions to the rail network and focusing on areas where there is no direct access to a rail station, is one of the priorities of Theme 2.

The aim is to extend the rail network and improve sea transport, but an increase in car ownership will put additional pressure on the highway network. Buses operated under the control of IETT, have a daily ridership of over 3 million passengers, representing 30% of the city's total daily public transport passengers. Bus lines can make more efficient use of limited road space than private cars. Therefore, policies and projects that promote a transition from private car trips to bus trips are among the focal points of Theme 2.

The main project under this theme is the **Rail Network Extension** project. The Istanbul public transport system is undergoing a transformation towards a system dominated by rail systems, and this will continue at an accelerated pace. However, the area covered by the rail network is not the only indicator of an efficient and accessible transportation system. New rail systems need to integrate with other transport modes to provide access to the rail system network using different solutions for those living at a distance from the stations. The true potential of sea transport should be maximised and policies developed to make the limited road network more efficient so that bus use becomes more attractive than private vehicle use. The projects proposed in this theme cover all these points.

Rail Network Extension

Istanbul's transport system is in the middle of a rail system revolution that is expected to last for 30–40 years, and the resulting integrated rail system network will be one of Istanbul's most important gains in the transition from private cars to public transport. This puts the Rail Network Extension project at the heart of this theme – and perhaps of all SUMP activities. This project covers a total of 27 rail lines, 14 of which are under construction and 13 are planned. Considering the total benefits of all quantitatively appraised projects, this project is predicted to provide 39% of exhaust emission reductions, 85% of well-to-tank emission reductions, 56% of air pollution reductions, 90% of all time savings and 67% of all reduced accidents.

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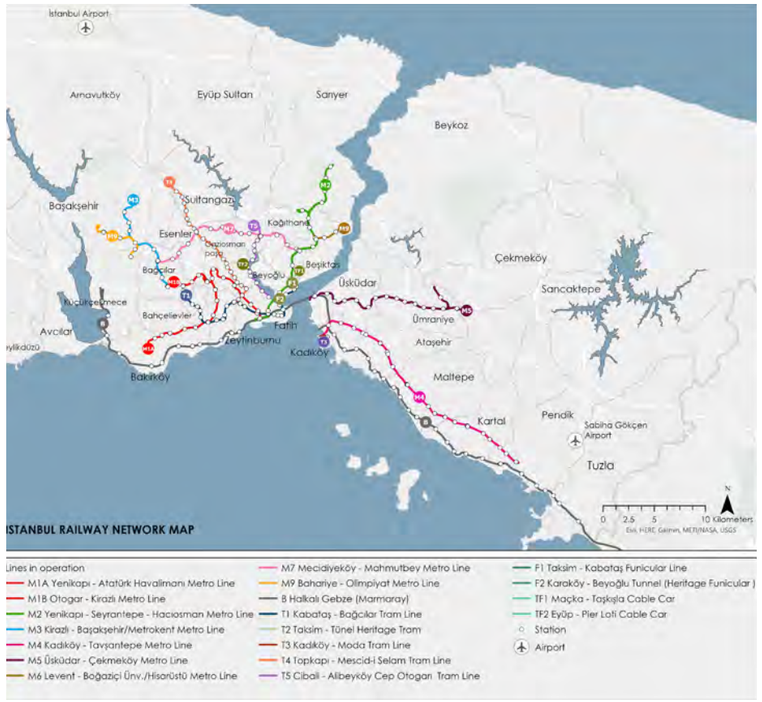
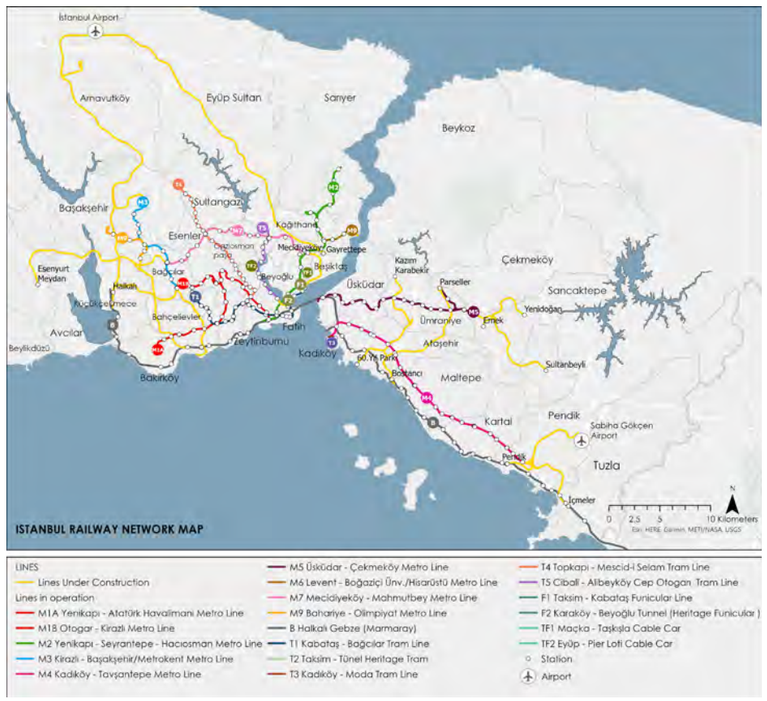


Operational Railway Network Istanbul



Lines Under Construction and Operation

Railway Network Istanbul Vision

Problem Description

Rail network does not cover citywide. Public transport system heavily depends on road based modes (bus and minibus).

Relation with Other Projects

- Cycle Feeder Routes
- Pedestrian Routes
- Passenger Sea Transport-Fleet Renewal
- Extension of Transfer Centres
- Park and Ride Facilities

Preparatory Tasks

- Undertake a feasibility study to confirm the correct location of stations, number of required vehicles, operational framework, exact benefits and costs.
- Undertake a consultation engagement process with stakeholders and residents along the routes to gain acceptance of the proposals.
- Prepare the detailed designs of lines for construction and assess further rail lines.

Follow-Up Tasks

- Track and monitor the ridership and occupancy
- Analyse modal shift after new line put into operation
- Closely monitor the progress of construction for ongoing works.
- Perform qualitative customer satisfaction analyses.

Beneficiaries	Owner/Responsible	Third Parties Involved
Public transport users	IMM as a provider of infrastructure Metro Istanbul Inc. as operator	All transport operators

Project Process

Preparation
Duration: -
Scope: -

Pilot
Duration: -
Scope: -

Implementation
Duration: Short, Medium and Long
Scope: Completion of the planned and ongoing projects

Estimated Budget	Financing Source
High Cost – Above 100 million TL	IMM, related ministry, PPP projects

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Contribution to SUMP Objectives

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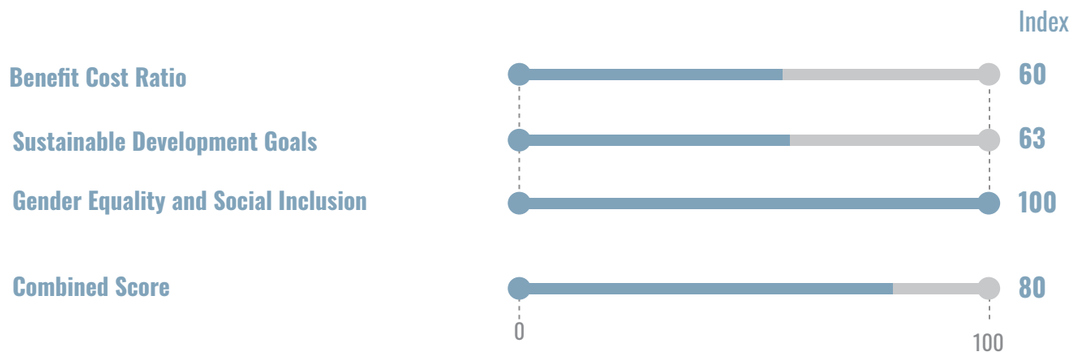

Rank : 1/26

Istanbulkart Extension to Include Minibus Operations

Minibuses carry 20% of public transport passengers in Istanbul but are isolated from the public transport network because: they do not accept the Istanbulkart for payment (which offers discounts to certain passenger groups); and they do not serve the same stops as the bus network. The core policy objective of the Istanbulkart Extension to Include Minibus Operations project is to deliver an integrated public transport network for Istanbul by enabling travel across all significant public transport modes using one means of payment. This project will make travel more convenient and safer for users, since the Istanbulkart is used for payment on all other modes and users will be carrying less cash. Due to high usage rates of minibuses, this change is expected to have a significant impact on the use of public transport.

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Problem Description

The core policy objective of the Istanbulkart extension is to deliver an integrated public transport network for Istanbul which enables travel across all significant public transport modes by one means of payment.

Relation with Other Projects

- Minibus Feeder Routes: Arnavutköy District

Preparatory Tasks

- Install validators on minibuses, including devising and installing the functionality necessary to enable identification of the minibus location using GPS.
- On a general level, a process of gradually convincing all District Minibus Operators Chambers in Istanbul is necessary to move to the new system. At a detailed level, agreement by each relevant Minibus Operators Chamber (for the relevant district) is needed to change to a flat fare system, and agreement as to what that fare should be.
- The method of taxation of minibus operator income will need to change as the process of recording and receiving income will change, and legislative decisions should be arranged on granting concessions on minibus travel for concession-holders.

Follow-Up Tasks

- Promotion efforts to ensure that inhabitants are aware of the fact that some minibuses are included in Istanbulkart system.
- On-going data analysis of the Istanbulkart data to understand the usage patterns in depth.

Beneficiaries

Passengers

Owner/Responsible

IMM Transportation Planning Directorate

Third Parties Involved

Various chambers of minibus operators

Project Process

Preparation

Duration: -
Scope: -

Pilot

Duration: Short
Scope: Transition to adoption of Istanbulkart system on minibuses

Implementation

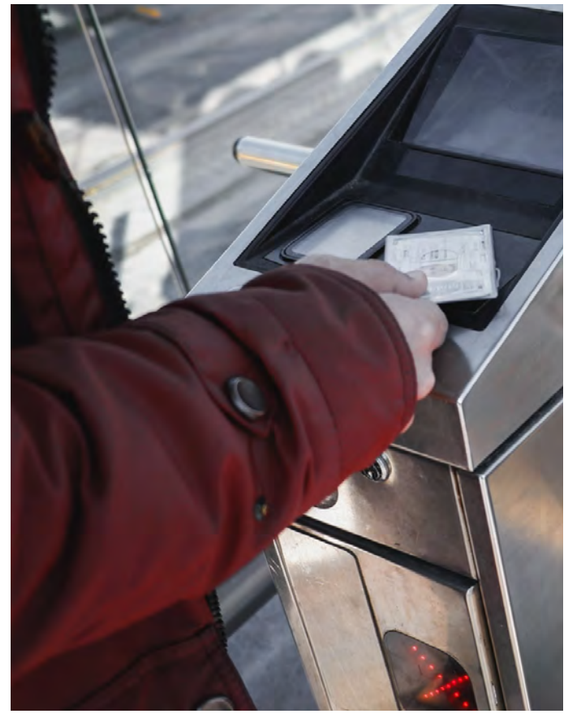
Duration: Short and Medium
Scope: Transition to gross-contract

Estimated Budget

High Cost – Above 100 million TL

Financing Source

IMM, private sector



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Contribution to SUMP Objectives

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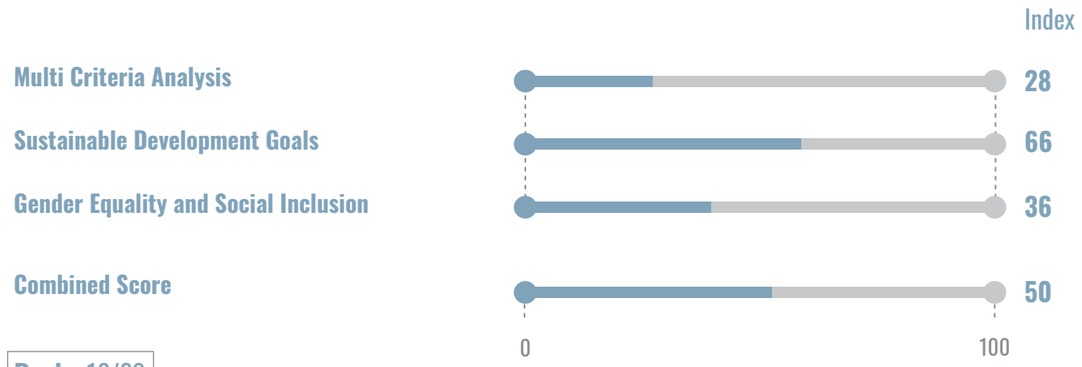

Rank : 16/26

Istanbul Network Management Control Centre (INMCC)

With the increase in population and the high number of private and public transport vehicles, there is a need to manage Istanbul's transport network proactively. This need can only be met by making traffic management smarter and integrated with public transport. The main aim of the Istanbul Network Management Control Centre (INMCC) is to provide a unified view across the highway network throughout the Istanbul Metropolitan area, by creating a single control centre and operating platform that supplies information on all transport modes across the highway network. The INMCC will supply the current Transportation Management Centre (TMC) with data that covers bus and minibus operations and that monitors traffic signals and traffic flow as the first step, followed by co-management to cover all forms of transport. TMC's responsibilities will need to expand in the long run, to include public transport operators, emergency services, the police and road maintenance crews. The INMCC will be an important element in the effective management of the highway network and, ultimately, the city's mobility.

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Problem Description

There are currently environmental problems, such as air quality and noise associated with congestion on the highway network. In addition, there are still problems with delays on the highway network during peak hours resulting in unreliability journey times for both cars and buses and reduced capacity due to accidents and road maintenance.

Relation with Other Projects

- Low Emission Zones
- Congestion Charging
- Bus Lanes
- Park and Ride Facilities
- Extension of Parking Regulation
- Reorganisation of Parking Regulation Enforcement

Preparatory Tasks

- Undertake a detailed review of the capacity and function of the existing TMC for Istanbul.
- Develop policy goals and define scope of the INMCC services to be selected.
- Undertake key stakeholder consultation to encompass a broader view of the existing TMC and identify the INMCC services which are viable and how they should be implemented.

Follow-Up Tasks

- Set up user surveys to monitor user satisfaction of the highway network.
- Set up measures to monitor incident clearance within 1 hour and delay during road works.
- Average bus and general traffic speeds and measure reduction in journey times under ordinary and peak traffic conditions.

Beneficiaries

Car drivers, bus users, emergency services, IMM and residents of Istanbul

Owner/Responsible

IMM

Third Parties Involved

Public, public transport and emergency services

Project Process

Preparation

Duration: Short
Scope: Development of ITS architecture and policy goals

Pilot

Duration: -
Scope: -

Implementation

Duration: Medium
Scope: Roll-out of the project

Estimated Budget

High Cost - Above 100 million TL

Financing Source

IMM

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Contribution to SUMP Objectives

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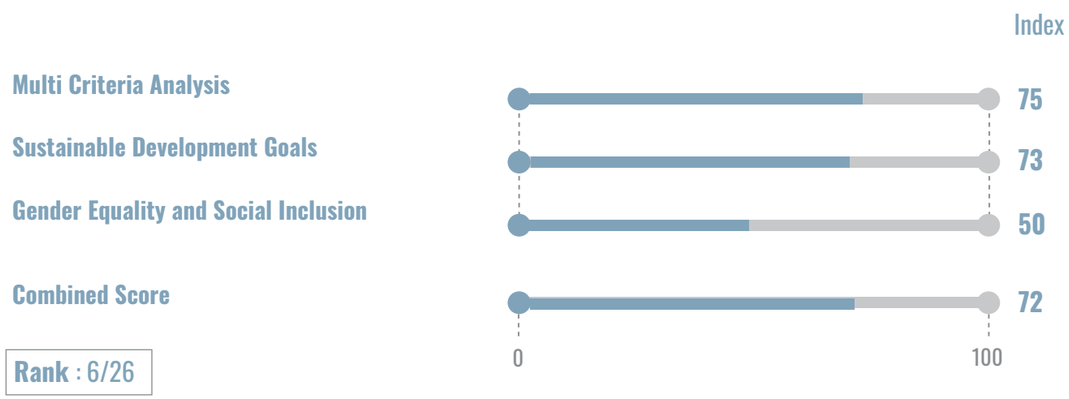
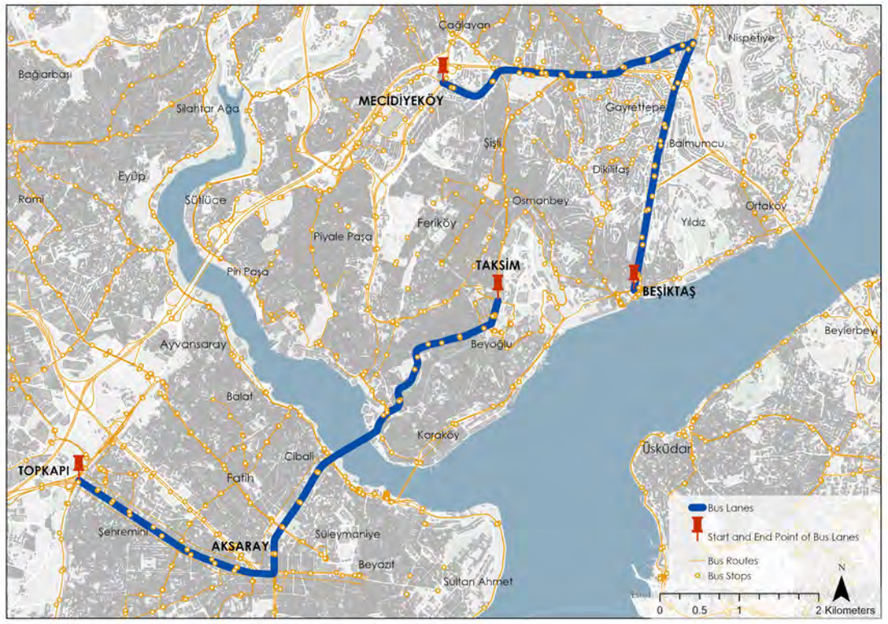


Rank : 6/26

Bus Lanes

To fulfil the SUMP vision for Istanbul to promote a sustainable transportation system, the proposed routes in the Bus Lanes project will create a network of bus lanes along Istanbul's major arteries to encourage public transport usage and to improve air quality. These special lanes give priority to buses, reducing travel time and increasing the reliability of buses compared to traffic on congested arteries. They also significantly help reduce air pollution on roads that serve general vehicular traffic, where one or more lanes are reserved for public transport buses.

Routes of Kızıltoprak-Bostancı and Kadıköy (Ziverbey)-Maltepe bus lanes



Routes of Millet Cd-Aksaray-Taksim and Okmeydanı-Mecidiyeköy-Barbaros Blv-Beşiktaş bus lanes

Problem Description

Inefficient operation performance, delays in bus services and reduced reliability of bus services.

Preparatory Tasks

- Undertake a feasibility study to confirm the correct location of pilot corridors.
- Detailed design of route corridors and application of parking restrictions and displacement of parking,
- An enforcement framework for lanes being used by unauthorized vehicles or illegal parking on the corridors should be established.

Follow-Up Tasks

- Monitor bus ridership and occupancy.
- Monitor bus lane utilisation, bus volumes and general traffic on the corridor.
- Establish a bus lane strategy and roll out programme.

Beneficiaries

Public transport users; bus, minibus and dolmus operators

Owner/Responsible

IETT

Third Parties Involved

Minibus and dolmus operators, police

Project Process

Preparation

Duration: Short
Scope: Feasibility studies

Pilot

Duration: Short
Scope: Pilot area implementation

Implementation

Duration: Medium
Scope: Roll-out of the project

Estimated Budget

High Cost – Above 100 million TL

Financing Source

IMM

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Contribution to SUMP Objectives

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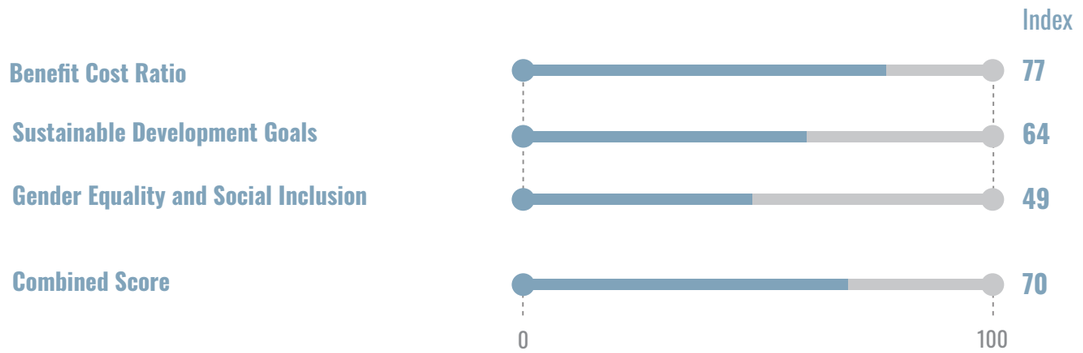
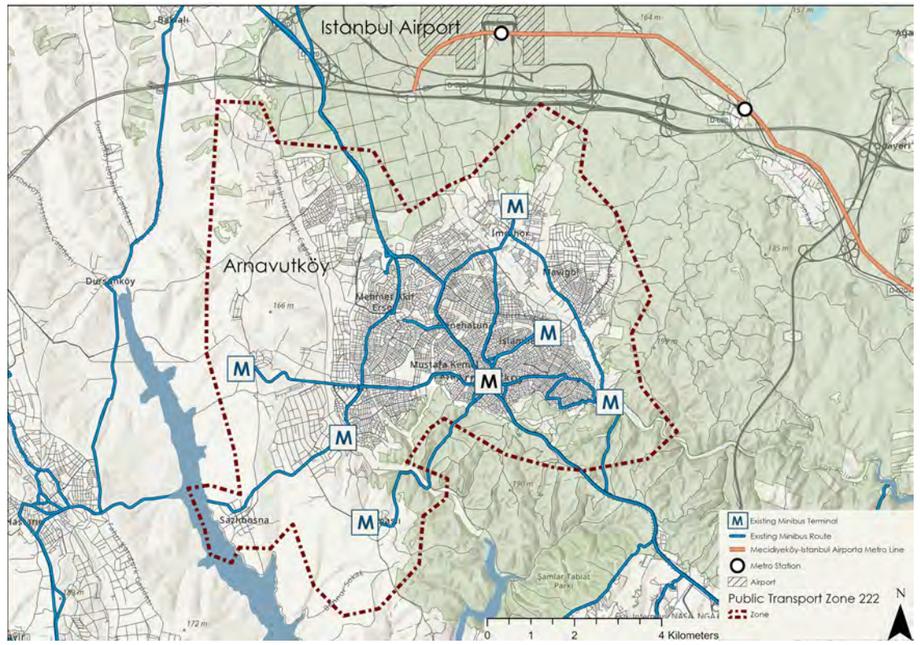


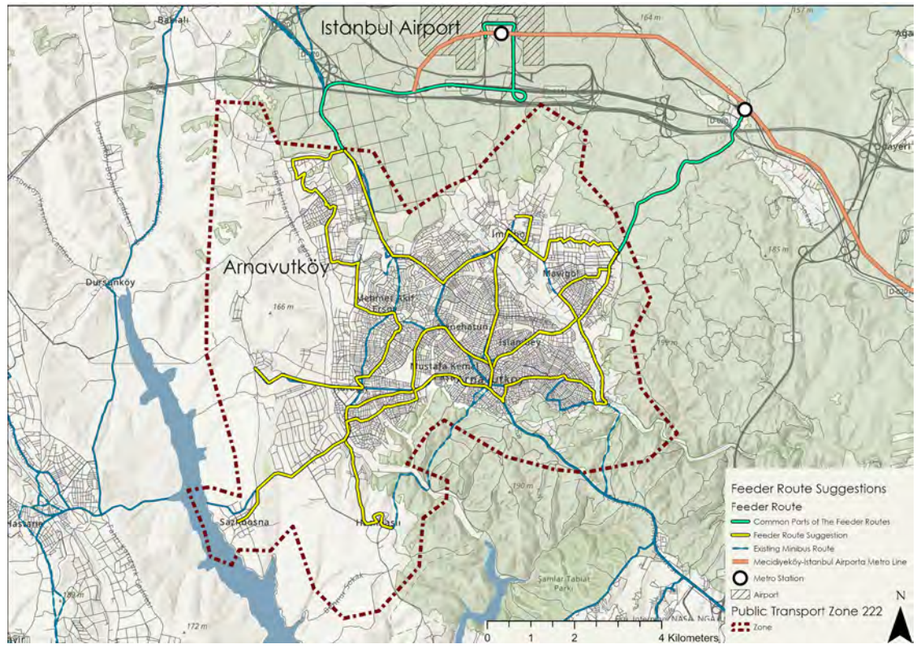
Rank: 7/26

Minibus Feeder Routes

The Minibus Feeder Routes project aims to provide feeder minibus lines to access the main bus and rail stations. As part of this project, a pilot application has been proposed for Arnavutköy district. In order to commercially satisfy the minibus operators, the project includes introducing a gross wage contract system for minibuses in the long term, to increase service quality and to reduce competition through route tendering. This will also guarantee service standards



Current minibus routes in the Arnavutkoy district



Suggested minibus feeder routes in the Arnavutkoy district

Problem Description

To maximise use of Metro lines, there must be good public transport services to and from stations. Minibuses play a very important role but are presently unregulated and do not provide reliable timetabled services.

Relation with Other Projects

- Istanbulkart Extension to Include Minibus Operations
- Extension of Transfer Centres

Preparatory Tasks

- If interim pilot gross cost contracts are launched, monitoring will be required during these interim contracts to minimise fraud by operators and/or passengers.

Follow-Up Tasks

- Online tracking of the vehicles to ensure that the drivers meet the design standards of the service.
- Promotion efforts to ensure that inhabitants are aware of the routes and their attributes.
- On-going data analysis of the Istanbulkart data to understand the usage patterns in depth.

Beneficiaries

People living in the catchment area of the selected stations

Owner/Responsible

IMM Transportation Planning Directorate

Third Parties Involved

IMM or a dedicated new unit and public transport operators

Project Process

Preparation

Duration: -
Scope: -

Pilot

Duration: Short
Scope: Definition of pilot routes

Implementation

Duration: Medium
Scope: Roll-out of the project citywide

Estimated Budget

Low Cost – 0-10 million TL

Financing Source

IMM

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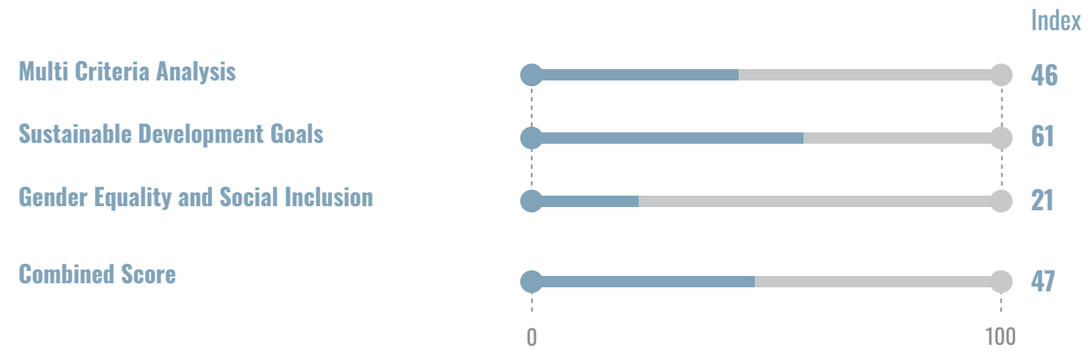
Contribution to SUMP Objectives

Index Values of Appraisals



Rank : 18/26

Passenger Sea Transport-Fleet Renewal

Istanbul has a coastline of over 500 kilometres, which should create opportunities for sea transport, but this mode has been neglected for years. Sea-based transport offers connectivity between the two continents and is an alternative to the city's congested highway network. As part of the Passenger Sea Transport – Fleet Renewal project, four main categories connect sea transport to the transport network, including: (i) coordinating with the four funicular lines in the Rail Network Extension project that integrate with the rail network; (ii) developing a new Sea Transport Master Plan as an overarching policy to organise ongoing efforts; (iii) extending sea taxi operations, which started in August 2021 with 50 sea taxis, which IMM supports as a demand-responsive mode (this project will also provide insights into sea transport demand around the city); (iv) adjusting the City Lines fleet composition that includes six different categories of vessel.

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Problem Description

- Sea transport is not used effectively.
- Does not cover city well with frequent services.
- Public transport integration of all modes is not sufficient.

Relation with Other Projects

- Extension of Transfer Centres
- Rail Network Extension
- Minibus Feeder Routes: Arnavutköy District

Preparatory Tasks

- Sea Transport Master Plan.
- Legislation/policy study.
- Feasibility study integrated into Sea Transport Master Plan for vehicle types and capacities.

Follow-Up Tasks

- Monitor modal share of sea transport, vessel utilization and line frequency.
- Qualitative customer satisfaction analysis.

Beneficiaries	Owner/Responsible	Third Parties Involved
Public transport users	IMM	Transport operators

Project Process

Preparation
Duration:-
Scope: -

Pilot
Duration: Short
Scope: Introduction of sea taxis, feasibility on vessel types

Implementation
Duration: Medium and Long
Scope: Development of new piers and lines

Estimated Budget	Financing Source
Low Cost – 0-10 million TL	IMM

Contribution to SUMP Objectives

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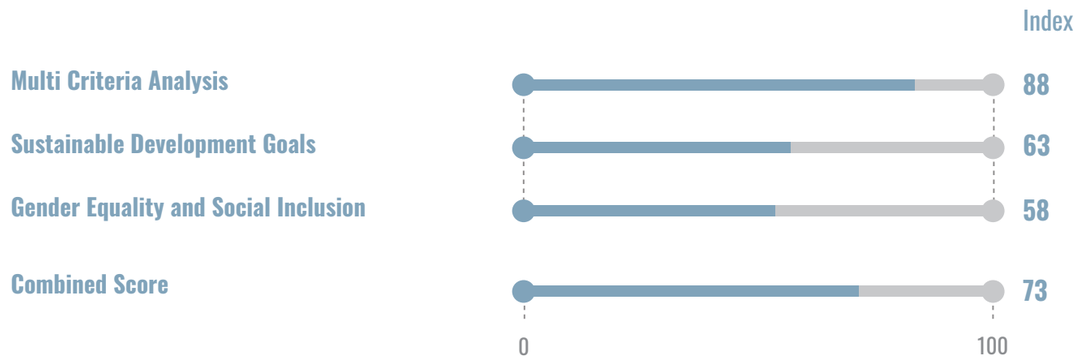

Rank : 5/26

Extension of Transfer Centres

Transfer centres enable a smooth and trouble-free transition from one means of transport to another (a change of mode or simply a change of vehicle) within a traveller's end-to-end journey. Having a sustainable transport system in the city depends on having a public transport system that meets citizens' needs. The Extension of Transfer Centres project will create a fully integrated public transport network for Istanbul, based on a high-quality design and focused on meeting user needs. This will be achieved by implementing a series of policies and projects, but at their heart is establishing a series of fully functioning transfer centres.

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Problem Description

Poor connectivity outside the city centre to and from Rapid Transit (i.e. Metro lines, Tram Lines, Metrobus and Marmaray) results in underusage of the Rapid Transit lines and over usage of (and congestion on) the road network. The core policy objective of the Extension of Transfer Centres is to create such a fully integrated public transport network for Istanbul.

Relation with Other Projects

- Cycle Feeder Routes
- Rail Network Extension
- Passenger Sea Transport-Fleet Renewal
- Minibus Feeder Routes: Arnavutköy District

Follow-Up Tasks

- Passenger approval and information usage surveys.
- Video footage of passenger movement through Transfer Centres before and after changes.
- Monitoring of use of facilities at Transfer Centres in the pilot.

Beneficiaries

IMM, IETT, Metro Istanbul Inc., TCDD, City population

Owner/Responsible

IMM

Third Parties Involved

IETT, Metro Istanbul Inc, TCDD

Project Process

Preparation

Duration: -
Scope: -

Pilot

Duration: Short
Scope: Pilot area implementation

Implementation

Duration: Medium and Long
Scope: Roll-out of the project citywide

Estimated Budget

Medium Cost – 10-100 million TL

Financing Source

IMM

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Contribution to SUMP Objectives

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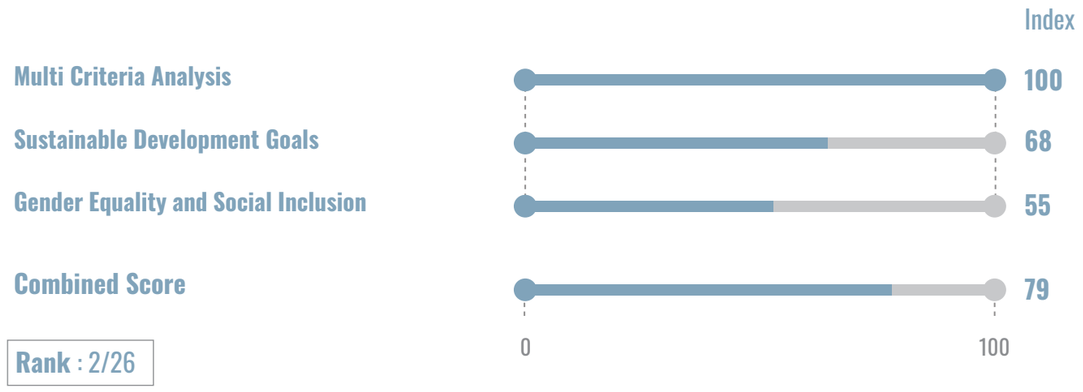

Rank : 2/26

Extension of Real Time Passenger Information and Open Data

The Extension of Real Time Passenger Information and Open Data has two aims. The first is to make passengers aware of real time travel information for public transport vehicles, which differs from static timetable departure information. This information raises satisfaction levels by helping passengers to optimise their journey and reduce travel time. This is also important in encouraging the transition to public transport. The second aim is to adopt an open data philosophy. The use of high-quality open data is also mentioned in the SUMP guidelines as an important recommendation for the planning process. Using open data that citizens and stakeholders can also access and use makes planning and operation processes more transparent. This enhances the decision-making process, improves service planning and quality, and enables public participation.

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Problem Description

- Real-Time Passenger Information: Inconvenience (for passengers) that arises from changing departure information due to real-world events
- Open Data: Lack of creative ideas that might help solving important social and economic problems.

Relation with Other Projects

- Extension of Transfer Centres
- Minibus Feeder Routes: Arnavutköy District
- Rail Network Extension

Preparatory Tasks

- Real-Time Passenger Information: Assessment of the current situation of the data produced by the vehicles of each mode and planning and realisation of the projects that will ensure that the deficiencies are completed.
- Open Data: Assessment of current situation of datasets and planning and realisation of the projects that will ensure that the datasets can work with each other properly.

Follow-Up Tasks

- Real-Time Passenger Information: Promotion efforts to ensure that citizens are aware of the information itself and the appropriate channels that are providing it.
- Open Data: Implement promotion campaigns in the form of traditional marketing efforts and innovative events such as hackathons or competitions.

Beneficiaries

IMM, PT operators, City population

Owner/Responsible

IMM

Third Parties Involved

Owners of each data sources

Project Process

Preparation

Duration: -
Scope: -

Pilot

Duration: -
Scope :-

Implementation

Duration: Short and Medium
Scope: Roll-out of real time information and enhancement of open data

Estimated Budget

High Cost – Above 100 million TL

Financing Source

IMM

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Contribution to SUMP Objectives

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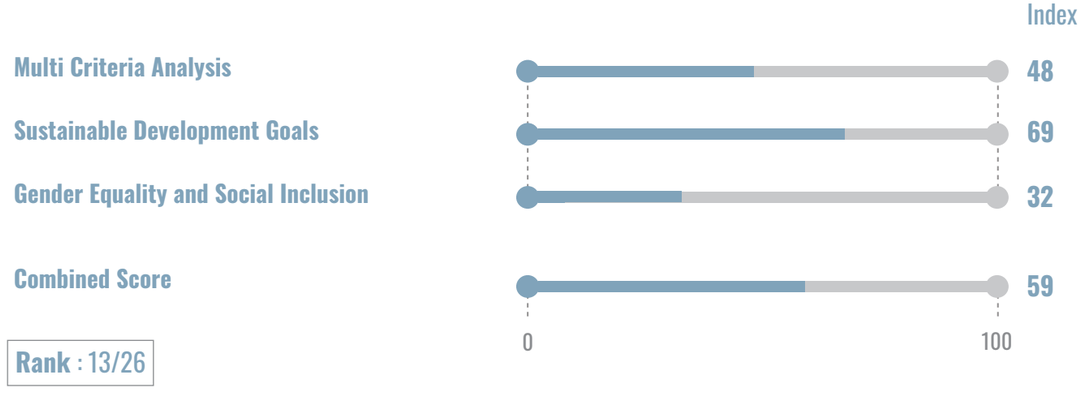

Rank : 13/26

Bus Service Improvement Programme (BSIP)

The Bus Service Improvements Programme (BSIP) aims to improve accessibility to public transport throughout the city by increasing the frequency of buses. In the outer areas of Istanbul, it is common for buses to be limited to two or even one bus per hour, which does not attract use. Initially, the BSIP will build on existing routes and timetables, to focus on increasing service frequency. IETT constantly re-plans routes to meet demand arising from the development of new settlements, the opening of new Metro lines, and other changes; IETT also adds new lines as needed. BSIP should focus on peripheral areas and then be applied throughout the city to become an integral part of the city's constant route optimisation.

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Problem Description

Unattractiveness and low frequency of bus services in some parts of the city.

Relation with Other Projects

- Extension of Transfer Centres
- Minibus Feeder Routes: Arnavutköy District
- Rail Network Extension

Follow-Up Tasks

- IETT should be encouraged to monitor ridership on BSIP routes. The Istanbul Transport Model (ITM) may be used to provide annual updates of public transport accessibility indicators.

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Beneficiaries

City population especially non car owners in outer areas

Owner/Responsible

IMM, IETT

Third Parties Involved

District authorities. Some extra space for bus parking and servicing may be required. Minibus operators should be informed (parallel project to engage them to provide improved feeder route services)

Project Process

Preparation

Duration: -
Scope: -

Pilot

Duration: Short
Scope: Pilot implementation

Implementation

Duration: Medium
Scope: Roll-out of the project

Estimated Budget

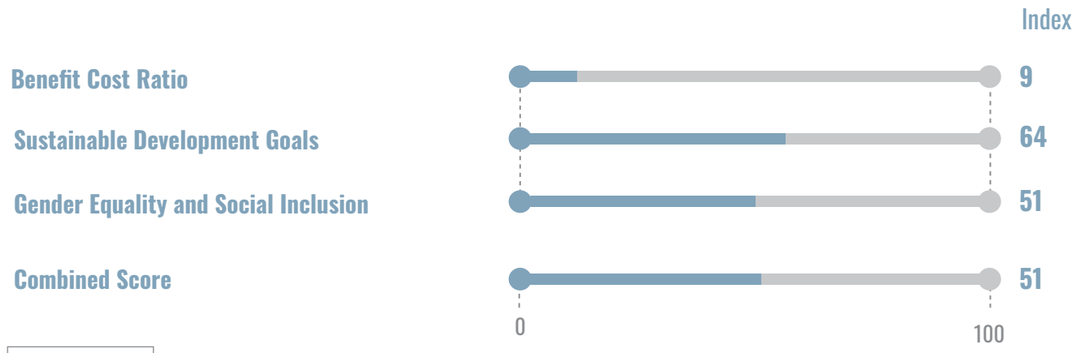
High Cost – Above 100 million TL

Financing Source

IMM

Contribution to SUMP Objectives

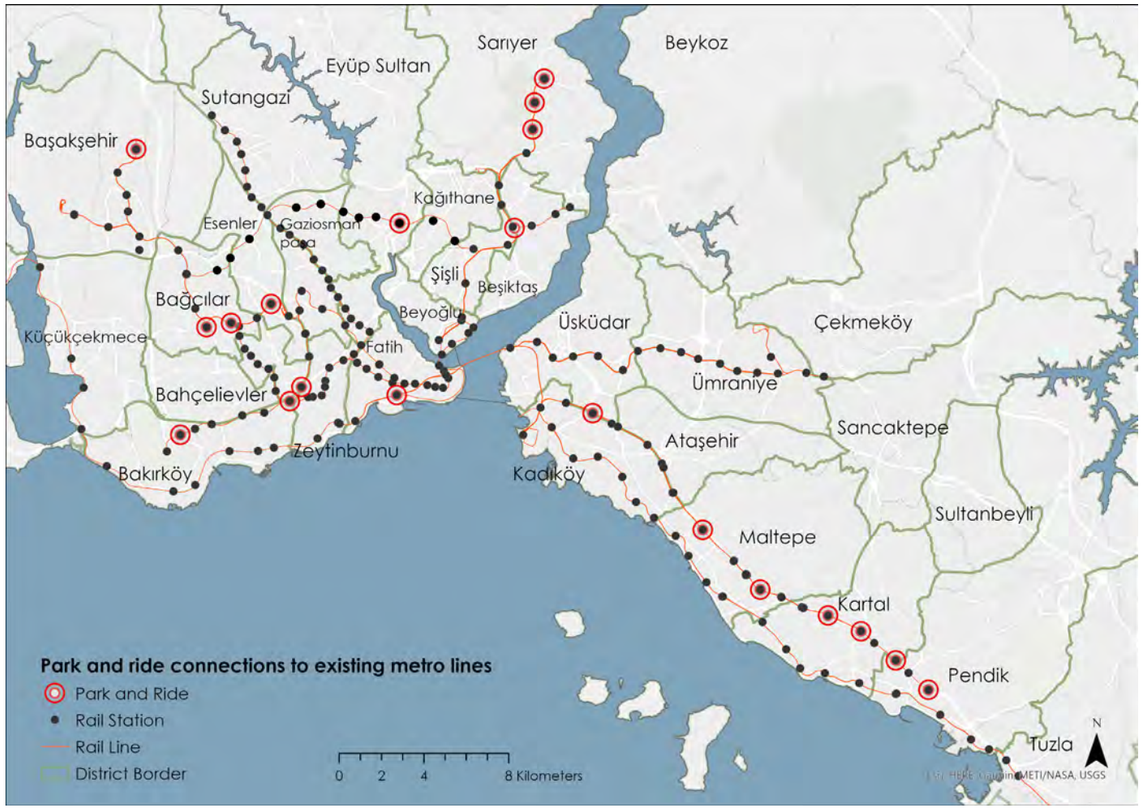
Index Values of Appraisals



Rank : 15/26

Park and Ride Facilities

The Park and Ride Facilities project will allow private vehicle users to park near a station and transfer to public transport to continue their trip. This increases access to the rail system network for those residing in areas where public transport is not developed and reduces private car trips to densely populated and crowded city centres. These facilities will offer high-capacity, convenient and safe parking locations outside city centres, and a direct connection to various public transportation modes, particularly rail systems. They will help to reduce traffic congestion and parking demand in city centres. The key objectives of the Park and Ride Facilities project are: (i) reducing congestion on main arteries to/from city centres; (ii) increasing public transport ridership; (iii) reducing transport-related emissions per capita; and (iv) limiting parking demand in city centres. The success of this project is closely related to the level of service of the connected public transport mode. Therefore, the first facilities should be integrated with fast and reliable services, like the Metro.



Park and ride connections to existing metro lines

Problem Description

Existing facilities are promising but not enough to instigate a significant shift.

Relation with Other Projects

- Extension of Transfer Centres
- Rail Network Extension

Preparatory Tasks

- Determining existing supply in terms of capacity and turnover rate.
- Updating the existing parking demand model.
- As a part of the demand model, performing sensitivity analyses of parking fee and distance to the destination.

Follow-Up Tasks

- Using following criterias to evaluate the Park and Ride Facilities; turnover rate, access mode share, operating cost per parking space.

Beneficiaries	Owner/Responsible	Third Parties Involved
Private vehicle users	IMM, ISPARK	-

Project Process

Preparation
Duration: Short
Scope: Feasibility studies

Pilot
Duration: Short
Scope: Pilot area implementation

Implementation
Duration: Medium and Long
Scope: Roll-out of the project citywide

Estimated Budget	Financing Source
Medium Cost – 10-100 million TL	IMM

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Contribution to SUMP Objectives

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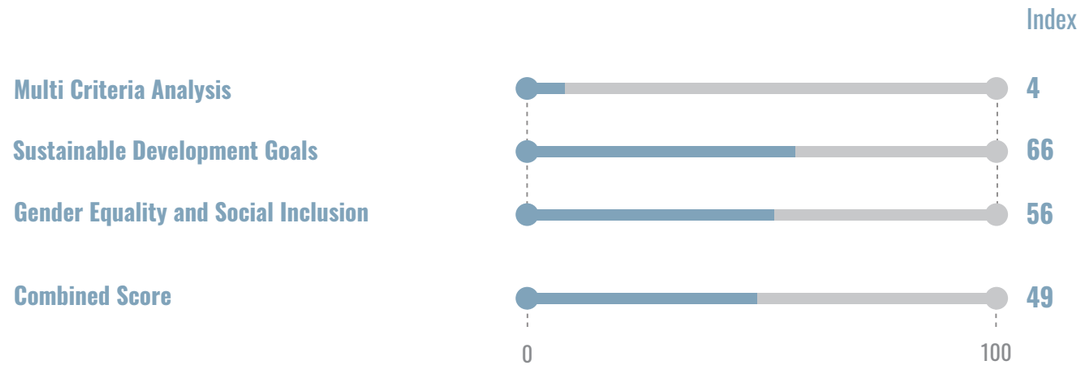

Rank : 17/26