Line 2 and Av. Faucett – Av. Gambetta branch line
concession of the Lima and Callao Basic Metro Network

Mrs. Christy García Godos Naveda
Head of Project

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### Diagnosis of the current situation

#### Urban transport

<table>
<thead>
<tr>
<th>Buses</th>
<th>The Metropolitanano</th>
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</table>
| - Lack of investment in vehicles and in several cases a degree of informality in operations.  
- Vans (known as combis) are the typical public transport vehicle for short distances, and the service is deficient in terms of standards of safety and comfort. | - This integrated public transport system is equipped with high capacity articulated buses circulating under the BRT system.  
- COSAC covers a segregated route (from south to north), passing through 16 districts, from Chorrillos to Lima Norte.  
- The length of the main route is 26 kilometers. |

<table>
<thead>
<tr>
<th>Taxis</th>
<th>Lima Metro – Line 1</th>
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</table>
| - There exists an oversupply of taxis.  
- Although the Lima Metropolitan Council began several years ago a reorganization of the Metropolitan Taxi Services (SETAME), many informal taxis continue to circulate.  
- Vehicles are not fitted with meters, meaning that rates are negotiated between the driver and the passenger. | - Also known as Line 1 of the Lima Metro, it is a metropolitan railroad in the city of Lima and operates almost totally via a system of elevated viaducts.  
- Line 1 of the Lima Metro goes from the district of Villa El Salvador to the district of Cercado de Lima (a distance of 21.48 km). |

**Currently, one of the big problems in Lima is the Public Transport System.**
Lima and Callao Basic Metro Network

Basic network of 6 Lines
Total length: 168 km
Estimated investment: US$20,000 MM

- **Line 1 (South-North)**
  Villa El Salvador - San Juan de Lurigancho

- **Line 2 (East-West)**
  Ate Vitarte - Callao

- **Line 3 (South-North)**
  Surco – Carabayllo

- **Line 4 (East-West)**
  Ate Vitarte - Callao

- **Line 5 (South-North)**
  Chorrillos - Miraflores

- **Line 6 (South-North)**
  Surco - Independencia
Line 1 granted in concession

**SECTION 1: BUILT**
- LENGTH: 22.20 Km
- TIME OF TRAVEL: 30 Min.
- DISTRICTS: 09
- STATIONS: 16
- INVESTMENT: US$ 532 Million

**SECTION 2: UNDERWAY**
- LENGTH: 12.40 Km
- TIME OF TRAVEL: 18 Min
- DISTRICTS: 02
- STATIONS: 10 News
- INVESTMENT: US$ 610 Million
- WORK PROGRESS: 80% aprox.
The layout of Line 2 (East-West axis) consists of the following route: Av. Víctor Raúl Haya de la Torre (Central Highway), Av. Nicolás Ayllón, Av. 28 de Julio, Av. Guzmán Blanco, Av. Arica, Av. Venezuela, Av. Germán Amézaga, Av. Oscar R. Benavides (Colonial) and Av. Guardia Chalaca. This section has a length of **27.22 km**.

The section that corresponds to Line 4 (Callao) runs along Av. Elmer Faucett, between Av. Néstor Gambetta and Av. Oscar R. Benavides (Colonial). This section has a length of **7.7 km**.
Line 2 and Av. Faucett – Av. Gambetta branch

Project components

**Layout**
- **Length:**
  - Line 2: 27 km
  - Line 4: 8 km
- **Type of Infrastructure:** Underground.
- **Type of tunnel:** Bidirectional
- **Minimum diameter of tunnel:** 9.20 m

**Stations**
- **35 STATIONS:** 13 in Callao and 22 in Lima.
- 2 excavation methods are proposed, as follows:
  - Station excavated in **cavern**
  - Station excavated in **Cut & Cover**

**Yards and Shops**
- **2 yards and shops:**
  - Santa Anita (East) for Line 2.
  - Bocanegra (West) for Line 4.

**Rolling Stock**
- **Maximum speed:** 80 km/h.
- **Commercial speed:** 37.5 km/h.
- **Train composition:**
  - 6 railcars per train at the beginning of the operation.
  - 7 railcars per train in the future in function of the demand.
  - Railcar capacity: 200 pax (density: 6 passengers/m²).
- **Frequencies in Rush Hour:**
  - Minimum frequency of service: 90 sec
  - Theoretical frequency of bid: 80 sec
### Line 2 and Av. Faucett – Av. Gambetta branch

**Project components**

<table>
<thead>
<tr>
<th>RAILROAD SUPERSTRUCTURE</th>
<th>POWER SUPPLY</th>
<th>INSTALLATIONS OF SYSTEMS</th>
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<tbody>
<tr>
<td>Rail resting on plate in sections inside the tunnel.</td>
<td>Rigid catenary inside tunnel sections.</td>
<td>CBT (Communication Based Train Control) signaling system per mobile block which allows reaching a frequency of up to 80 seconds.</td>
</tr>
<tr>
<td>Rail supported on ballast outside the tunnel.</td>
<td>Conventional catenary outside tunnel sections.</td>
<td>ATC (Automatic Train Control) system that controls ATP (Automatic Train Protection) + ATO (Automatic Train Operation) + ATS (Automatic Train Supervision) with automatic platform gates for the safety of users.</td>
</tr>
<tr>
<td>Rail type: 60 UIC</td>
<td>8 electric sub-stations.</td>
<td>Grade of Automation 4 (GoA4) was selected with operation without driver in line as recommended by the International Association of Public Transport (UITP).</td>
</tr>
<tr>
<td>Antivibration and noise systems</td>
<td>Estimated power: 120 MW for Line 2 and 38 MW for the branch (Profile Study).</td>
<td></td>
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</tbody>
</table>

- Rigid catenary inside tunnel sections.
- Conventional catenary outside tunnel sections.
- 8 electric sub-stations.
- Estimated power: 120 MW for Line 2 and 38 MW for the branch (Profile Study).
- The power will be supplied by Luz del Sur (1st Stage) and EDELNOR (2nd. Stage).
Line 2 and Av. Faucett – Av. Gambetta branch concessionaire scheme

CONCESSION-HOLDING COMPANY

CONSTRUCTOR (C)
- Must be part of the Bidder
- Consortium of up to 4 constructors with proven experience.

General experience:
- Civil works associated with metro type underground railroad systems.
- Antiquity: Last 12 years
- Construction of tunnels using TBM

Specific experience:
- 1 project of 15 km, 15 stations and US$ 800 million investment, or
- 6 projects equivalent to a total of 20 Km, 16 stations and US$ 1 billion investment. In this case, one of the companies shall demonstrate 50% of the experience.

Presence: Minimum 2 years after the operation of the project
Equity: US$ 500 million

The constructor shall also demonstrate:
- 10 years in supply and installation of electromechanical equipment in a minimum of two lines with an extension no less than 15 km applying Automatic Train Protection (ATP) technology.
- At least 1 line with CBTC technology - level GoA3
- At least 1 of the lines of the urban train must have the automatic train control with an GoA3 level or superior. The signals specification must be according to the IEEE 1474 Standard and IEC Standard 62290

OPERATOR (O)
- Must be part of the Bidder
- Specific experience:
  - Antiquity: Last 10 years
  - Operating of at least one metro type underground railroad system or urban railroad system, with more than 150 million passengers a year.
  - Passengers from more than one system cannot be considered.
  - If the operator does not meet the requirements a Technical Assistance Contract should be presented.
  - Technical Operations Advisor should accredit requirements.
  - Presence of Technical Advisor: Minimum of 5 years after the project operation
  - Equity: US$ 200 million

SUPPLIER OF ROLLING STOCK (MR)
- May be part of the Bidder (exclusive)
- May be associated with more than one Bidder, only as a Supplier (Rolling Stock Supply Contract)

General experience:
- In production of rolling materials no less than 10 years
- Supplier to one or more metro type in the past 3 years.

Specific experience:
- Total minimum production of 700 urban (metro) train cars in the last 03 years
- Production of 50 trains to be equipped with CBTC technology or GoA 4 or GoA 3

Presence: Minimum 7 years
Equity: US$ 400 million

Line 2 and Avenida Faucett – Avenida Gambetta Branch Line Concession of the Lima and Callao Basic Metro Network
**Line 2 and Av. Faucett – Av. Gambetta branch**

Financial requirements

PRE-QUALIFICATION REQUIREMENTS: FINANCIAL

Net equity of **one thousand six hundred million dollars (US$ 1,600,000,000.00)** at the close of the last two (02) audited financial years.

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<th>Role</th>
<th>Requirement</th>
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<td>Strategic Partner</td>
<td>• Must contribute a Net Equity equal to <strong>five hundred million dollars (US$ 500,000,000.00)</strong> at the close of the last two (02) audited financial years.</td>
</tr>
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<td>Constructor</td>
<td>• Must contribute a Net Equity equal to <strong>five hundred million dollars (US$ 500,000,000.00)</strong> at the close of the last two (02) audited financial years.</td>
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<tr>
<td>Supplier of Rolling Stock</td>
<td>• Must contribute a Net Equity equal to <strong>four hundred million dollars (US$ 400,000,000.00)</strong> at the close of the last two (02) audited financial years.</td>
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<td>Operator</td>
<td>• Must contribute a Net Equity equal to <strong>two hundred million dollars (US$ 200,000,000.00)</strong> at the close of the last two (02) audited financial years.</td>
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## Project Contact

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<tr>
<td><strong>Project Manager</strong></td>
<td>Ms. Christy García Godos Naveda</td>
</tr>
<tr>
<td><strong>Telephone</strong></td>
<td>(51-1) 200-1200 extensions 1211 or 1362</td>
</tr>
<tr>
<td><strong>Fax</strong></td>
<td>(51-1) 200-1260 or 421-2616</td>
</tr>
<tr>
<td><strong>E-mail</strong></td>
<td><a href="mailto:metrolimalinea2@proinversion.gob.pe">metrolimalinea2@proinversion.gob.pe</a></td>
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<tr>
<th><strong>Integral Consultant</strong></th>
<th>Consorcio Geodata SpA – Universidad Esan – Serconsult</th>
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<tbody>
<tr>
<td><strong>Team Leader</strong></td>
<td>Nikolaos Kasilis</td>
</tr>
<tr>
<td><strong>Telephone</strong></td>
<td>(51-1) 421-2351</td>
</tr>
<tr>
<td><strong>Fax</strong></td>
<td>(51-1) 345-1328</td>
</tr>
<tr>
<td><strong>E-mail</strong></td>
<td><a href="mailto:informes@metrolimalinea2.com">informes@metrolimalinea2.com</a></td>
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