TMB management of COVID’19: perspectives and challenges
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1. Management of the crisis. Actions
1.1. Organization for managing the crisis
TMB during the Covid-19 crisis

— Coordination Committee of COVID-19
  — Chaired by the chief executive officer
  — It is structured in three strategic commissions:
    — Health
    — Operations
    — Communication
  — The managers of the different departments of the company, involved in managing this crisis, take part in these commissions.
  — One representative of each Bus and Metro Works Council is invited to participate.
— Management Commission and Bus and Metro Operations Committees.
— Permanent commissions of the Works Councils.
— Safety and Occupational Health Committees.
— Board of Directors.
— Coordination with other public transport operators through the Covid-19 Committee within the environment of ATM.
— Discussions with public administrations to assess and coordinate actions: AMB, City Councils, Generalitat (Regional Government of Catalonia, Ministry of Transport and European Union.
— Permanent talks with public transport operators and organizations at international level (UITP, ATUC, ALAMYS, plus others)
1.2. Health: protection of staff
Protection of staff

Prevention measures since the start of the pandemic, which have limited the impact of the virus on staff:

— **System of rotation shifts** to protect staff further.
— **Confinement** of all staff at risk.
— **Isolation** of everyone who has been in contact with an infected person.
— **Distribution of masks** since February: in spite of the difficulties to obtain them, over 60,000 masks have been handed out, provided by the Barcelona City Council, the County Council, ATM, the Ministry of Transport and purchases made by TMB.
— Provision of a **medical and psychological telephone consultancy service**, by the TMB health department, formed by 16 professionals
— **Monographic Area in internet on COVID-19**, designed to easily consult any news and solve doubts on the health emergency, along with advice and resources, frequently asked questions on TMB transport networks, etc.
— **PCR tests** are currently being done on all active employees with symptoms, or who have been in contact with a possible patient, along with **antibody analysis** of confirmed or probable cases who are returning to work.
Protection of staff

— Cancellation of the sale of single tickets on buses.
— Increased safety of bus drivers: the driver's space has been sealed with a separation screen.
— Access to buses is through the second door
— In district buses, a methacrylate screen has been placed, as access is only available through the front door.
— On the metro, agents at stations do not provide a direct service.
— The temperature is taken of all staff members who have accessed the metro and bus control centres.
— A thermographic camera has been installed at Sagrera.
— Customer service points have been closed. Information and customer services are only provided by phone.
— Great technological effort has been made to enable 1,000 licences to facilitate teleworking.
Incidents on staff
Development of hospitalized patients (Date 05/28)
Incidents on staff
Development of positive cases in the ICU (Data extracted on 05/28)
Incidents on staff
Discharges of the total number of positive and suspicious cases
Incidents on staff
In quarantine without symptoms
## Incidents on staff

Daily photograph of the situation

### Staff situation chart as of May 28, 2020 (data extracted 05/29 in the morning)

<table>
<thead>
<tr>
<th>Staff category</th>
<th>Bus</th>
<th>Metro</th>
<th>Total corpo</th>
<th>Corpo FMB</th>
<th>Corpo TB</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covid-19 positive employees (confirmed and probable cases)</td>
<td>44</td>
<td>25</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>76</td>
</tr>
<tr>
<td>Positive hospital discharges Covid-19</td>
<td>43</td>
<td>25</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>75</td>
</tr>
<tr>
<td>Discharges due to death</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Possible cases of Covid-19</td>
<td>262</td>
<td>215</td>
<td>25</td>
<td>18</td>
<td>7</td>
<td>0</td>
<td>502</td>
</tr>
<tr>
<td>High IT positive and possible cases</td>
<td>252</td>
<td>203</td>
<td>26</td>
<td>18</td>
<td>7</td>
<td>1</td>
<td>481</td>
</tr>
<tr>
<td>In isolation (by close contact) without symptoms</td>
<td>295</td>
<td>222</td>
<td>25</td>
<td>21</td>
<td>4</td>
<td>0</td>
<td>542</td>
</tr>
<tr>
<td>In isolation FINISHED</td>
<td>287</td>
<td>218</td>
<td>25</td>
<td>21</td>
<td>4</td>
<td>0</td>
<td>530</td>
</tr>
<tr>
<td>They are still in isolation AS OF THE CURRENT DATE</td>
<td>8</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td><strong>External staff working in TMB facilities with positive Covid-19</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>Low IT:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID-19 CONFIRMED BY INSS</td>
<td>46</td>
<td>28</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>74</td>
</tr>
<tr>
<td>COVID NOT CONFIRMED</td>
<td>191</td>
<td>140</td>
<td>12</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td>343</td>
</tr>
<tr>
<td>Diseases and accidents &lt;03/01/2020</td>
<td>347</td>
<td>238</td>
<td>25</td>
<td>16</td>
<td>8</td>
<td>1</td>
<td>610</td>
</tr>
<tr>
<td><strong>TOTAL LOW</strong></td>
<td>584</td>
<td>406</td>
<td>37</td>
<td>24</td>
<td>9</td>
<td>4</td>
<td>1027</td>
</tr>
<tr>
<td>In risk groups (quarantines, chronic, pregnant, lactating,&gt; 60 ...)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>2153</td>
<td>1562</td>
<td>521</td>
<td>280</td>
<td>239</td>
<td>2</td>
<td>4236</td>
</tr>
<tr>
<td>Staff “at disposal” and others (holidays ...)</td>
<td>992</td>
<td>1190</td>
<td>52</td>
<td>25</td>
<td>6</td>
<td>21</td>
<td>2234</td>
</tr>
<tr>
<td><strong>Pending rating</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

| **Total**                                                                     | 4162| 3522  | 654         | 353       | 274      | 27    | 8338 |      |

Partial Retirees are not included

There are 1,029 people in total enabled to telework (10.54%)

As of 03/19, people who do not have services are identified and registered “at disposal”

Since 03/23 (by Bus) and 3/24 (by Metro), people over 60 years old who had to work are added as risk personnel.

As of 04/27 the IT that the INSS has been ratifying is COVID (and the systems have been requalified with a specific code that gives them economic treatment for work accidents as indicated by the RD) are identified

On the other hand, it is indicated the IT that we already had before March 1, and those after March 1 that it is not known if they are or not by COVID
Impact of COVID 19 (data on 28 May 2020)

**Population**
(Employees in the case of TMB)

- Catalunya: 7,565,099
- Barcelona City: 1,636,762
- TMB: 8,338

**Confirmed cases**
(In percentages)

- Catalunya: 0,87%
- Barcelona City: 1,11%
- TMB: 0,91%

**Hospital discharges**
(In percentages)

- Catalunya: 56,9%
- Barcelona City: 82,9%
- TMB: 98,7%

**Deaths**
(In percentages)

- Catalunya: 18,43%
- Barcelona City: 22,8%
- TMB: 0,16%

About cases: gray
About the population / employees: red
1.3. Actions on the metro
— Metro travel has dropped to -94%.
— **Service has adapted at all times**, although it has fluctuated between 50 and 60%, in order to provide the best service in relation to each situation of the state of alarm, with reinforcement at peak times (75%).
— **Extension of the weekend service has been cancelled** and operates with a fixed timetable from Monday to Sunday, from 5 am to 12 midnight.
— The Montjuïc Funicular was suspended on 24 March.
— At some stations, **signals and routes have been installed to facilitate social distancing**.
— Doors are opened in a centralized way on trains, where this is possible.

### Metro, daily table (30 days)

<table>
<thead>
<tr>
<th>Type of day</th>
<th>Day</th>
<th>Travellers</th>
<th>% Var. (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>01/05/2020</td>
<td>70.182</td>
<td>-91,3%</td>
</tr>
<tr>
<td>S</td>
<td>02/05/2020</td>
<td>98.447</td>
<td>-90,7%</td>
</tr>
<tr>
<td>E</td>
<td>03/05/2020</td>
<td>66.346</td>
<td>-91,1%</td>
</tr>
<tr>
<td>F</td>
<td>04/05/2020</td>
<td>201.920</td>
<td>-84,9%</td>
</tr>
<tr>
<td>F</td>
<td>05/05/2020</td>
<td>204.030</td>
<td>-84,9%</td>
</tr>
<tr>
<td>F</td>
<td>06/05/2020</td>
<td>208.445</td>
<td>-84,8%</td>
</tr>
<tr>
<td>F</td>
<td>07/05/2020</td>
<td>210.338</td>
<td>-84,6%</td>
</tr>
<tr>
<td>F</td>
<td>08/05/2020</td>
<td>218.800</td>
<td>-84,9%</td>
</tr>
<tr>
<td>S</td>
<td>09/05/2020</td>
<td>123.140</td>
<td>-87,2%</td>
</tr>
<tr>
<td>E</td>
<td>10/05/2020</td>
<td>73.721</td>
<td>-90,1%</td>
</tr>
<tr>
<td>F</td>
<td>11/05/2020</td>
<td>237.315</td>
<td>-82,0%</td>
</tr>
<tr>
<td>F</td>
<td>12/05/2020</td>
<td>240.991</td>
<td>-82,3%</td>
</tr>
<tr>
<td>F</td>
<td>13/05/2020</td>
<td>244.899</td>
<td>-82,3%</td>
</tr>
<tr>
<td>F</td>
<td>14/05/2020</td>
<td>244.704</td>
<td>-82,2%</td>
</tr>
<tr>
<td>F</td>
<td>15/05/2020</td>
<td>253.667</td>
<td>-82,1%</td>
</tr>
<tr>
<td>F</td>
<td>16/05/2020</td>
<td>136.003</td>
<td>-86,8%</td>
</tr>
<tr>
<td>E</td>
<td>17/05/2020</td>
<td>86.418</td>
<td>-87,2%</td>
</tr>
<tr>
<td>F</td>
<td>18/05/2020</td>
<td>266.545</td>
<td>-79,4%</td>
</tr>
<tr>
<td>F</td>
<td>19/05/2020</td>
<td>272.327</td>
<td>-79,6%</td>
</tr>
<tr>
<td>F</td>
<td>20/05/2020</td>
<td>277.772</td>
<td>-79,6%</td>
</tr>
<tr>
<td>F</td>
<td>21/05/2020</td>
<td>281.988</td>
<td>-79,4%</td>
</tr>
<tr>
<td>F</td>
<td>22/05/2020</td>
<td>291.171</td>
<td>-79,9%</td>
</tr>
<tr>
<td>S</td>
<td>23/05/2020</td>
<td>172.890</td>
<td>-81,0%</td>
</tr>
<tr>
<td>E</td>
<td>24/05/2020</td>
<td>109.015</td>
<td>-83,7%</td>
</tr>
<tr>
<td>F</td>
<td>25/05/2020</td>
<td>341.272</td>
<td>-73,6%</td>
</tr>
<tr>
<td>F</td>
<td>26/05/2020</td>
<td>345.927</td>
<td>-74,3%</td>
</tr>
<tr>
<td>F</td>
<td>27/05/2020</td>
<td>350.972</td>
<td>-74,6%</td>
</tr>
<tr>
<td>F</td>
<td>28/05/2020</td>
<td>355.211</td>
<td>-74,6%</td>
</tr>
<tr>
<td>F</td>
<td>29/05/2020</td>
<td>372.129</td>
<td>-74,3%</td>
</tr>
<tr>
<td>S</td>
<td>30/05/2020</td>
<td>259.302</td>
<td>-73,4%</td>
</tr>
<tr>
<td>E</td>
<td>31/05/2020</td>
<td>171.379</td>
<td>-75,3%</td>
</tr>
</tbody>
</table>

1 With respect to the equivalent day last year
## Protocol de desinfecció i neteja del metro de TMB

<table>
<thead>
<tr>
<th>Estacions i dependències d’estacions</th>
<th>Trens</th>
<th>Edificis corporatius i tallers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Es fa dos cops al dia</strong></td>
<td><strong>Es fa un cop al dia i abans que el tren entri a revisió</strong></td>
<td><strong>Es netegen tres cops al dia (en cada canvi de torn)</strong></td>
</tr>
<tr>
<td><strong>Es posa molta cura en:</strong></td>
<td><strong>Es netegen a consciència:</strong></td>
<td><strong>En el cas de l’edifici corporatiu de La Sagrera, s’hi fa una neteja a fons un cop cada dues setmanes en què es desinfecten parets, sostres i terres fent servir productes de neteja emprats en la desinfecció quirúrgica.</strong></td>
</tr>
<tr>
<td>— Distribuïdors</td>
<td>— Les barres interiors</td>
<td></td>
</tr>
<tr>
<td>— Validadores</td>
<td>— Seients</td>
<td></td>
</tr>
<tr>
<td>— Passamans d’escales</td>
<td>— Portes (especialment polsadors)</td>
<td></td>
</tr>
<tr>
<td>— Ascensors (especialment la botonera)</td>
<td>— Cabines de conducció</td>
<td></td>
</tr>
<tr>
<td>— Seients</td>
<td>— Qualsevol element manipulable per part del client o empleat</td>
<td></td>
</tr>
<tr>
<td>— Dependències dels empleats</td>
<td>— Deixa actuar durant el temps estipulat per garantir la desinfecció</td>
<td></td>
</tr>
<tr>
<td><strong>Es deixa actuar durant el temps estipulat per garantir la desinfecció</strong></td>
<td><strong>El tren disposa de líquid desinfectant perquè a cada canvi de conductor el mateix empleat netegi tots els botons i manipuladors que ha d’utilitzar.</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Suma Bac D10 diluït amb aigua**

**5 min.**
1.4. Actions on buses
— Bus travel has dropped to 96%.
— Service has adapted at all times to provide the best service in relation to the degree of restriction of each situation of the state of alarm. The average level has been around 50%.
— New timetables have been planned, adapting to the speed of the line.
— Posters have been placed, displaying the maximum capacity of passengers in each vehicle.
— Shifts at depots have been approved, and shuttles have been put in place to bring and collect drivers to their place of work.
— The Barcelona Bus Turístic and the Cable Car have been suspended since 14 March.

### Bus, daily table (30 days)

<table>
<thead>
<tr>
<th>Type of day</th>
<th>Day</th>
<th>Travellers</th>
<th>% Var. (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>01/05/2020</td>
<td>17.849</td>
<td>-93,6%</td>
</tr>
<tr>
<td>S</td>
<td>02/05/2020</td>
<td>37.016</td>
<td>-91,0%</td>
</tr>
<tr>
<td>E</td>
<td>03/05/2020</td>
<td>17.919</td>
<td>-93,1%</td>
</tr>
<tr>
<td>F</td>
<td>04/05/2020</td>
<td>89.908</td>
<td>-88,2%</td>
</tr>
<tr>
<td>F</td>
<td>05/05/2020</td>
<td>92.411</td>
<td>-87,9%</td>
</tr>
<tr>
<td>F</td>
<td>06/05/2020</td>
<td>95.505</td>
<td>-87,8%</td>
</tr>
<tr>
<td>F</td>
<td>07/05/2020</td>
<td>96.224</td>
<td>-87,6%</td>
</tr>
<tr>
<td>F</td>
<td>08/05/2020</td>
<td>99.429</td>
<td>-86,9%</td>
</tr>
<tr>
<td>S</td>
<td>09/05/2020</td>
<td>43.963</td>
<td>-89,1%</td>
</tr>
<tr>
<td>E</td>
<td>10/05/2020</td>
<td>18.054</td>
<td>-93,0%</td>
</tr>
<tr>
<td>F</td>
<td>11/05/2020</td>
<td>111.589</td>
<td>-85,4%</td>
</tr>
<tr>
<td>F</td>
<td>12/05/2020</td>
<td>112.722</td>
<td>-85,6%</td>
</tr>
<tr>
<td>F</td>
<td>13/05/2020</td>
<td>116.466</td>
<td>-85,2%</td>
</tr>
<tr>
<td>F</td>
<td>14/05/2020</td>
<td>113.337</td>
<td>-85,4%</td>
</tr>
<tr>
<td>F</td>
<td>15/05/2020</td>
<td>119.804</td>
<td>-83,0%</td>
</tr>
<tr>
<td>S</td>
<td>16/05/2020</td>
<td>49.564</td>
<td>-87,4%</td>
</tr>
<tr>
<td>E</td>
<td>17/05/2020</td>
<td>24.706</td>
<td>-89,2%</td>
</tr>
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<td>F</td>
<td>18/05/2020</td>
<td>131.523</td>
<td>-83,1%</td>
</tr>
<tr>
<td>F</td>
<td>19/05/2020</td>
<td>135.934</td>
<td>-82,6%</td>
</tr>
<tr>
<td>F</td>
<td>20/05/2020</td>
<td>140.104</td>
<td>-82,5%</td>
</tr>
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<td>F</td>
<td>21/05/2020</td>
<td>141.708</td>
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</tr>
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<td>143.982</td>
<td>-81,1%</td>
</tr>
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<td>S</td>
<td>23/05/2020</td>
<td>63.931</td>
<td>-83,2%</td>
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<tr>
<td>E</td>
<td>24/05/2020</td>
<td>30.401</td>
<td>-88,6%</td>
</tr>
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<td>F</td>
<td>25/05/2020</td>
<td>175.319</td>
<td>-77,4%</td>
</tr>
<tr>
<td>F</td>
<td>26/05/2020</td>
<td>184.470</td>
<td>-76,4%</td>
</tr>
<tr>
<td>F</td>
<td>27/05/2020</td>
<td>185.483</td>
<td>-76,7%</td>
</tr>
<tr>
<td>F</td>
<td>28/05/2020</td>
<td>185.837</td>
<td>-76,5%</td>
</tr>
<tr>
<td>F</td>
<td>29/05/2020</td>
<td>183.990</td>
<td>-75,8%</td>
</tr>
<tr>
<td>S</td>
<td>30/05/2020</td>
<td>93.750</td>
<td>-76,2%</td>
</tr>
<tr>
<td>E</td>
<td>31/05/2020</td>
<td>49.318</td>
<td>-79,5%</td>
</tr>
</tbody>
</table>

1 With respect the equivalent day last year
* Estimate with existing partial information
## Protocol de desinfecció i neteja dels autobusos de TMB

### Neteja dels autobusos

- Cada nit, a més dels circuits propis de neteja de la flota, incloem la desinfecció diària dels autobusos que surten a servei i dels que durant el dia estan al taller.
- Utilitzem bàsicament canons d’ozó de 5g/h i la desinfecció dura uns 11 minuts (en busos de 12 metres); després s’ha de deixar ventilar uns 7 minuts.
- Les persones que fan la desinfecció han de portar elements de protecció (guants, ulleres i màscara).
- Un cop el bus s’ha desinfectat, s’hi posa una cinta al volant per deixar-ne constància, i així és visible per al conductor.
- S’han distribuït productes perquè en tot moment els conductors puguin desinfectar el seu lloc de treball, a més de solucions alcohòliques.

### Neteja i desinfecció d’oficines de les cotxeres

- A la neteja habitual de les cotxeres hi hem afegit la desinfecció. A més, hem fet un reforç de la neteja i desinfecció per estances de les cotxeres, potenciant la desinfecció després de cada torn a les oficines, tallers, centre de control, lavabos i vestidors, menjadors i sales de descans de conductors.
- També hem incorporat un servei de desinfecció per nebulització, a demanda, en les zones on calgui incidir-hi més.
- A més, en els centres s’han distribuït productes de desinfecció perquè en tot moment els empleats puguin desinfectar el seu lloc de treball, a més de solucions alcohòliques per mantenir la higiene recomanada.

### Purificació de l’aire en entorns oberts de més volum

- Tant al Centre de Control com a les oficines de les cotxeres, a més de la neteja i la desinfecció, s’han instal·lat màquines que purifiquen l’aire per anar netejant l’ambient.

### Protocol de retirada de vehicles en cas que es detecti en servei un possible cas de Covid-19

- En aquesta situació, aturem el cotxe i el desallotgem. El bus es retira remolcat a la cotxera i es realitza el procés de desinfecció abans que cap empleat el mogui.
1.5. Communication
Communication in the management centre

— Communication is from the crisis management centre.
— The Crisis Communication Committee articulates communication, information and customer service management in all areas of the company.
— We are managing communication with: transparency, clarity, proactivity, coherence, flexibility and empathy.
— Intensive use of all own dissemination channels: public address system, information panels, MouTV channel, corporate website, TMB Notícies website, TMB App, JoTMBé alert system, customer service phone, social networks, press office...
— Permanent active guard service.
— Relations with the press, a key factor.
  — 22 press releases sent.
  — 36 news contents published in TMB Notícies
  — 206 press requests managed
  — 670 tweets on Twitter (over 3 million impressions)
  — 126 posts on Facebook
  — 67 Info TMB clips on MouTV
Communication with users

— Through our channels, we explain the infection prevention measures on public transport.
— Over 570 messages have been published on twitter regarding service information, with an impact of over 8 million impressions.
— Campaign to promote safe travel on the metro and bus #NoEtMoguis #JoEmQuedoACasa
— Campaign of thanks to the group of TMB professionals and volunteers #Soulafortaquesmou: https://www.youtube.com/watch?v=_iDs_4Vf_Rl
— Corporate website with a monographic area to facilitate full information on COVID-19, the bus and metro service and TMB management.
— 20 updates on service information on the website.
Online customer phone service

Punts TMB are not providing service, as the customer service offices have closed to avoid physical contact with users.

— Users can make online and phone enquiries:
  — By phone 900 701 149.
  — On Twitter, in @TMBInfo support profile
  — On Facebook Messenger
  — The virtual office on the corporate website, can be used for processes and procedures.

We constantly maintain full information through our social network profiles.
Communication to employees

— All internal communication channels are activated: intranet, the app, emails, Telegram, posters, videos, meetings, Canal GenTMB, etc.

— A COVID-19 area has been created on intranet, which is a repository of communication to employees, safety and occupational health instructions, recommendations and advice, good practices: https://youtu.be/dBziwLJieJbw

— The area JoEmQuedoACasa has been enabled; free resources to make confinement easier: learning, theatre, music, museums, reading, sports, etc.

— #SouLaForçaQueEnsMou campaign, which acknowledges the work of TMB employees and service-provision companies: https://www.youtube.com/watch?v=IDs_4Vf_RI

— Publication of 27 InfoTMB (internal communications)
— Publication of 32 internal regulations and instructions
— Publication of 8 GenTMB News newsletters
— Publication of 34 GenTMB Intranet/magazine articles
TMB social initiatives

— Collaboration through the TMB volunteering programme in transporting patients by bus.
— TMB and the Association of Florists pay tribute to the elderly with roses on the bus and metro during the Sant Jordi Festival.
— 14th TMB Competition of Short Stories starts up a children's story category. The winning story will be converted into a musical by Dagoll Dagom.
— Publishing of the children’s story “Ja puc sortir de casa”.
— Participation in the Generalitat campaign advert #EnsEnSortirem.
— Collaboration in a clinical trial.
— Collaboration with City Councils and Civil Protection service in distributing masks to passengers.
— The Classic Bus Rally, planned for the last weekend of May, has been cancelled.
— All planned cultural and social activities have been cancelled.
2. Analysis of mobility
2.1. Mobility before the crisis
Travel on public transport before the crisis

Distribution of travel by operators

Data from TransMet 2019 (ATM)
Modes of travel before the crisis

- Public transport: 40%
- On foot: 32%
- Car: 23%
- Motorcycle: 3%
- Bicycle and others: 2%
Past records of TMB networks in 2019

Development of the demand
Years 2002-2019
Start of the year with good perspectives

TMB data February 2020 (past record)

<table>
<thead>
<tr>
<th>Passengers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro</td>
<td>1.4 million</td>
</tr>
<tr>
<td>Bus</td>
<td>0.7 million</td>
</tr>
<tr>
<td>Total TMB</td>
<td>2.1 million</td>
</tr>
</tbody>
</table>

— Record number of passengers on public transport in general and TMB in particular.
— Public transport (TMB), the hub of motorised mobility.
— Measures to develop sustainable mobility (measures against pollution and climate change, start-up of the ZBE (low emission zone, etc.)
TMB supply and demand scenario.

Before the crisis

Millions of journeys
2.2. Mobility during the crisis
Drop in demand

Development of the demand
Years 2014-2020
TMB monthly validations 2020

- January: 1.0%
- February: 0.8%
- March: -54.4%
- April: -91.5%
- May: -82.2%

Legend:
- Grey: Previous year
- Red: Current year
Supply and demand scenario

- Supply before the crisis
- Demand before the crisis
- Supply during the crisis
- Demand during the crisis
Daily development at TMB from 1 March

- Equivalent day previous year
- Absolute current year
Daily development at TMB from the state of alarm

- Absolute current year
Weekly development of demand at TMB on business days from the state of alarm
Limitations owing to coronavirus

- Limitation of occupancy to 33% of surface areas of vehicles
- Social distancing (1.5 – 2 metres)
- Travelling discouraged, except for essential services, which must be guaranteed with adapted public transport
- Obligation to maintain a supply of public transport adapted to the contingency, to guarantee social distancing
- Reinforcements at peak times
- Economic unbalance and cost of the system
Development of mobility in Barcelona

Variation of average traffic in the city
From 7 to 0 hours and from 0 to 24 hours (with respect to the average of the same type of day in February 2020)
Development of mobility in Barcelona

Development of the estimated number of journeys depending on the mode of transport
Business days from 0 to 24 hours
2.3. New scenario of mobility
Reduced mobility

Reduced mobility is foreseeable, based on several factors

Factors

<table>
<thead>
<tr>
<th>Factors</th>
<th>-3.5%</th>
<th>-6.0%</th>
<th>-10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Crisis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in Teleworking</td>
<td>-2.0%</td>
<td>-6.0%</td>
<td>-10%</td>
</tr>
<tr>
<td>Reduced mobility</td>
<td>-5.5%</td>
<td>-12.0%</td>
<td>-20%</td>
</tr>
<tr>
<td>Loss in TMB passengers (millions)</td>
<td>34.3</td>
<td>74.8</td>
<td>130.9</td>
</tr>
</tbody>
</table>

Factors (probability of intervals of effect):

— Economic crisis: values of reduction in demand between 2008 and 2010 (economic crisis of the 2000s)
— Increase in Teleworking: forecast between -2% and -10%
— Decrease in mobility: forecast between -5.5% and -20%
— Loss of passengers: estimated between 34.3 and 130.9 million passengers cancel the operation of the ZBE (low emission zone), etc.
Forecast of passengers on TMB networks over those forecast during 2020 (1)

With limited occupancy of **50% to July** and **80% to October**
TMB would lose approximately **41% of travel: 265 million journeys**

<table>
<thead>
<tr>
<th>Months</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>50</td>
</tr>
<tr>
<td>February</td>
<td>50</td>
</tr>
<tr>
<td>March</td>
<td>55</td>
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<td>April</td>
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<td>May</td>
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<td>June</td>
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<td>July</td>
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<td>August</td>
<td>45</td>
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<tr>
<td>September</td>
<td>50</td>
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<tr>
<td>October</td>
<td>55</td>
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<tr>
<td>November</td>
<td>50</td>
</tr>
<tr>
<td>December</td>
<td>50</td>
</tr>
</tbody>
</table>
Public transport in Barcelona before and after

Change in the modal division of mobility in Barcelona and it is forecast that the new plan of action of the City Council will be recovered.

Modal distribution
- 2018
- COVID
- PMU Objective
3. TMB with respect to the new normal situation
Towards a new normal situation

— Public transport continues to be essential for sustainable mobility.
— Impossible to quickly recover all supply of before the crisis: limited staff owing to health reasons.
— With occupancy criteria of 50%, there would be 345 passengers during 2020 which TMB would be unable to transport.
— The change in habits affects mobility.
— The use of public transport, particularly TMB, has been essential to guarantee mobility during the crisis.
— The drop in demand and the obligation of guaranteeing mobility during the crisis causes economic unbalance and a cost in the system.
Recovery of users' confidence

The confidence of users regarding public transport must be recovered, with protection and safety measures

— Compulsory use of masks
— Develop payment by card or mobile
— Reinforce health messages
— Promote telework
— Organize timetables of companies to avoid crowds at peak times
— Others
For sustainable mobility...

If we want to continue our role as the main axis of urban mobility:

— Follow-up of occupancy of our networks to increase the response capacity.
— Make an analysis to improve efficiency of our networks.
— Continue investing in infrastructure Line 9 plan, Zona Franca green depot,... and the commitment to public transport (more efficiency and sustainable mobile material).
— Work with administrations on measures to improve urban areas, to increase the efficiency of public transport (bus lanes, priority at traffic lights...).
— Continue the strategy of environmental improvement, linked to the use of public transport.
— Start up a communication campaign to recover the image and confidence in public transport.
Economic effects of the pandemic

— Throughout the health crisis, TMB social networks have been providing an adequate mobility offer to citizens who need to travel to fulfil basic services.

— The economic effects that the pandemic has had on collective transport are devastating due to the reduction in the number of passengers, which has dropped by more than 90%.

— We have maintained a level of supply to facilitate essential mobility with maximum safety for users.

— The uncertainty surrounding how the passenger recovery process will evolve over the next few months places transport services in a clear and worrying situation of economic unsustainability.

— Public institutions must act quickly and take steps to address financial needs.
Commitment to the recovery of public transport

We are requesting a “Commitment to the recovery of public transport” based on the RESPONSIBILITY of everyone:

- Government
- Companies and production sectors
- Citizens
- Transport companies
Responsibilities of governments

— The survival of public transport is crucial for the economic recovery.
— Public transport is a key accelerator for the economy, creation of jobs, social inclusion and sustainability.
— Public transport is essential for the environment and contributes to preventing climate change because it reduces road congestion and pollution.
— TMB transport networks save one million commuters from travelling by car per day and 4 million kilograms of CO2, plus 1.5 million kilograms of NOx and nearly 80,000 grams of PM every year.
— Public transport is an essential social service because it provides equal opportunity to all citizens.
— Public transport creates secure jobs, which cannot be relocated abroad. Currently, TMB has a workforce of 8,200 direct employees, and generates a large number of indirect jobs.
Responsibility of companies

— Businesses and governments must facilitate the return to the new normal of their employees, adopting measures adapted to this reality:
  – Facilitating *teleworking*.
  – Making work arrival and departure *times more flexible*.
— These decisions will avoid crowds at peak hours and enable a more balanced distribution of travellers.
Responsibility of citizens

— The new normal entails a **new way of travelling on public transport**.
— Travellers must follow the rules and **recommendations for good practices** that are given, both in terms of hygiene and health and travel plans, avoiding hours of maximum influx of people.
— It is essential that public transport be viewed as a safe space to ensure it once again becomes citizens’ **preferred travel option**.
— **Distance should not be a deterrent factor** if hygiene and prevention measures are used.
— Public transport **improves the quality** of the air we breathe and directly impacts our **health and quality of life**.
Measures implemented to recover public transport services

With our entry into phase 1 of deconfinement, TMB has implemented a series of measures to recover public transport services in the best conditions and safety.

— **Service increase Metro and Bus networks** adapted to higher mobility needs.
— **Increased information service**
  - Occupation level indicators to enhance trip planning (application reports average occupation by line, direction, station and time slot for the Metro and by line, direction and time slot for Buses)
  - Real-time data of the service (information through all TMB channels (public address system, information panels, MouTV channel, corporate website, social networks...))
  - Personnel to assist passengers (capacity assistant for travellers, control the use of the Metro and Buses, information on good practices, ...)
— **Hygiene and disinfection of the transport networks**, both in vehicles and spaces, with special attention on the contact areas
— **Air renewal** (ventilation systems)
— **Installation of screens on buses** to separate the drivers
— **Installation of hydroalcoholic gel dispensers free** in the main metro stations
TMB contingency plan

Customers
- Sale of masks and hydroalcoholic gel in vending machines
- Sale of single bus tickets from the TMB App
- Boost digital information and sales channels
- Reopening of customer service (Punts TMB)

Employees
- Health and safety plan
- Adaptation of work places and areas
- Separation of bus driver areas with screens
- Promotion of teleworking and gradual face-to-face incorporation

Operation
- Forecast of demand by phases (Metro and Bus)
- Recuperation of supply by phases (Metro, Bus and BBT)
- Management of crowds at peak times
- Adaptation of service conditions
- Restart of interventions

Economic
- Ensure Treasury
- Review of investments and budgets
- Review of Programme Contract

Communication
- Public transport promotion campaign
- Aims: to recover the confidence of users
- Reinforced information and signalling
A modern, efficient organization

TMB

Communication and Institutional Relations
Good Government and Legal Advice
Corporate Management and Control

Mobility

Bus
Metro

Services

Administration and Finance
Organization and People
Marketing and International Business
Innovation and Technology
Working with a view of service

- People
- Customers
- Institutions
Working with a view of service

- Social commitment
- Response to challenges
- Efficient public management
- Innovation
- TMB prestige
- Coherence
- Management efficiency
- Project management
- Commitment to sustainability
- Permanent dialogue
- Integration
- Respect
- Transparency
- Flexibility
- Vocation for service
- Talent

People

Customers

Institutions
Thanks to everyone for your efforts

We are all necessary to build the future