PAPERCAST RESEARCH RESULTS
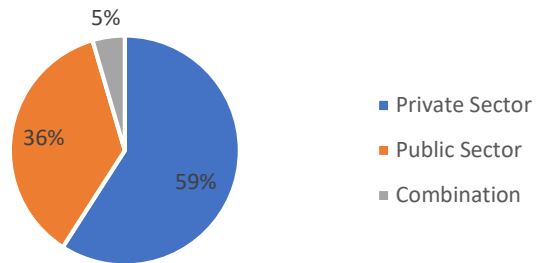
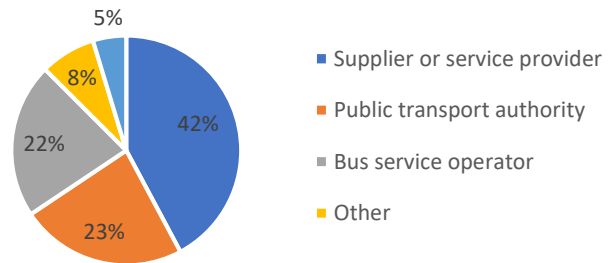# Digital Bus Stop Market

Key Highlight and Insights

- 69% have immediate-short term plans to implement new digital bus stop signage.

- 32% are currently piloting technologies and are 37% planning to do so in the next 2 years.

- 75% with existing digital displays are looking for new technologies within the next 2 years.

- E-paper features as the preferred new technology for bus stop signage (41%), followed by LED displays (31%) and LCD (22%).

- The top five priorities for selection: solar power/grid independency, wireless connectivity, total cost of ownership, easy installation and flexibility/scalability.

- There is consensus that providing real-time information to passengers at bus stops will bring customer, service and financial benefits.

- The top benefits: improving the passenger experience, smart city alignment, facilitating service improvements, and increased ridership and ticket revenues.

- 78% expect an increase in ridership by more than 2% realised quickly after implementation.

- The majority expect ridership gains up to 10% whereas 21% expect more than 10% and 13% expect more than 15% increase in ridership.
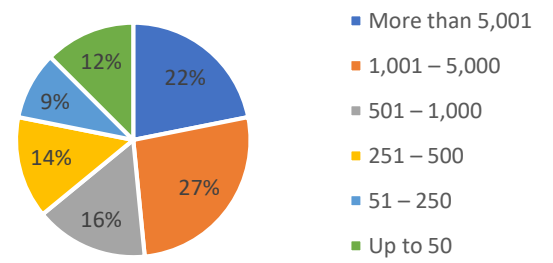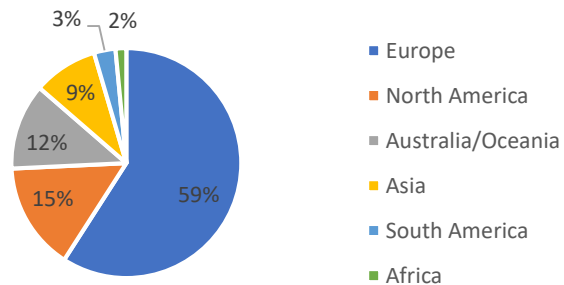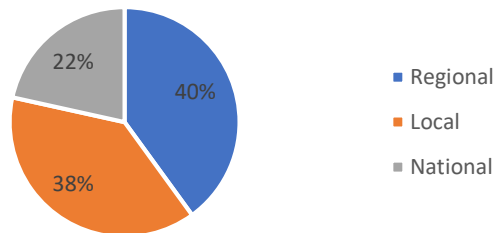
Respondent Profile

Type of organisation:

- Private Sector — 59%
- Public Sector — 36%
- Combination — 5%

Type of organisation:

- Supplier or service provider — 42%
- Public transport authority — 23%
- Bus service operator — 22%
- Other — 8%
- (additional) — 5%

Number of bus stops:

- More than 5,001 — 22%
- 1,001 – 5,000 — 27%
- 501 – 1,000 — 16%
- 251 – 500 — 14%
- 51 – 250 — 9%
- Up to 50 — 12%

Region:

- Europe — 59%
- North America — 15%
- Australia/Oceania — 12%
- Asia — 9%
- South America — 3%
- Africa — 2%

Geographical composition:

- Regional — 40%
- Local — 38%
- National — 22%

Job role:

- Technology — 37%
- Engineering — 16%
- Customer Service — 13%
- Other — 13%
- Planning/Scheduling — 13%
- Operations — 6%
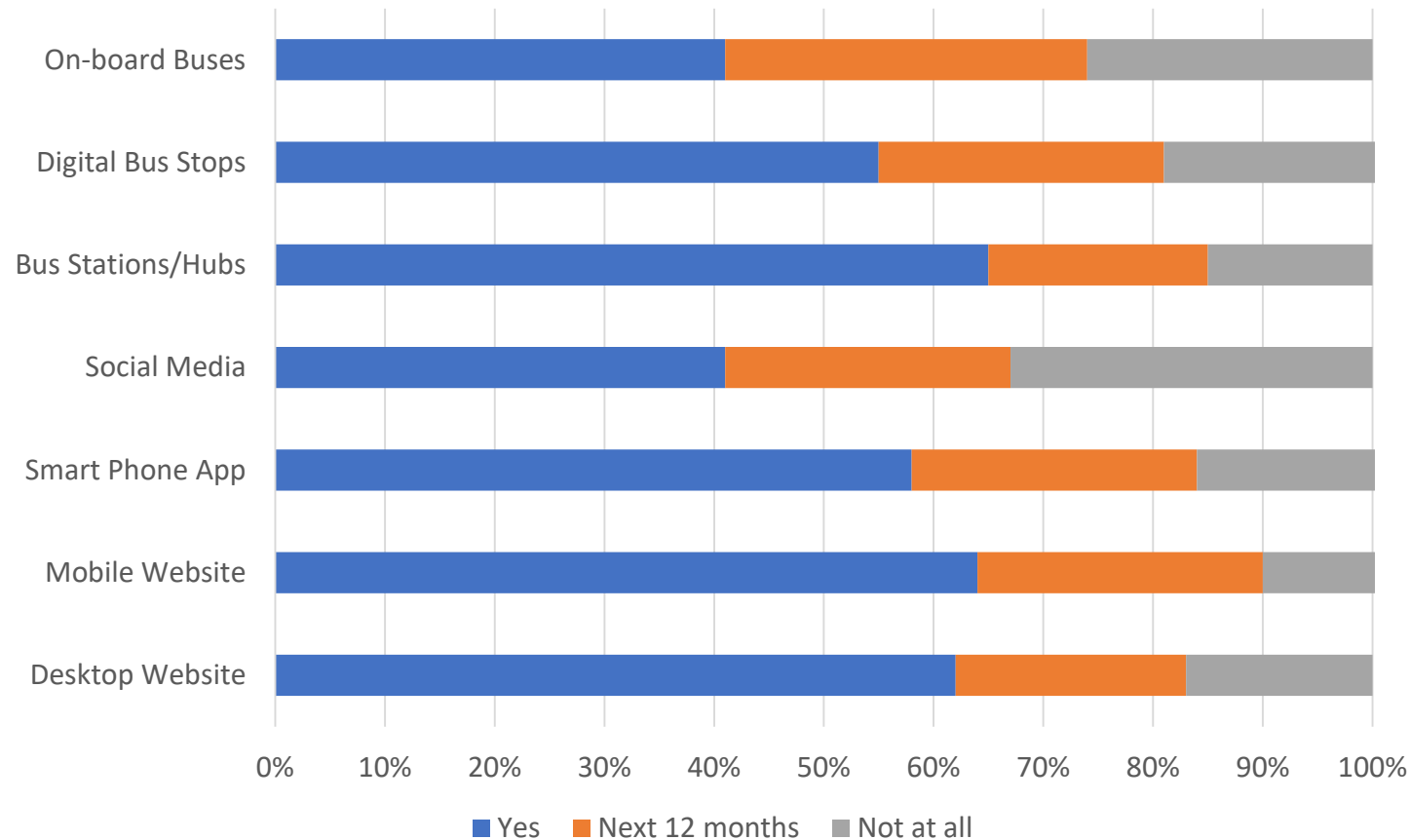- (additional) — 2%, 0%
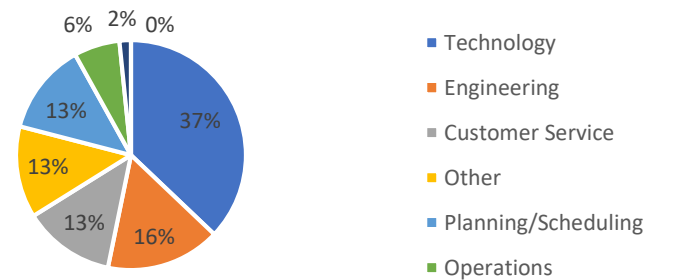
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Current Situation

Are you providing real-time information to passengers via any of the listed channels?
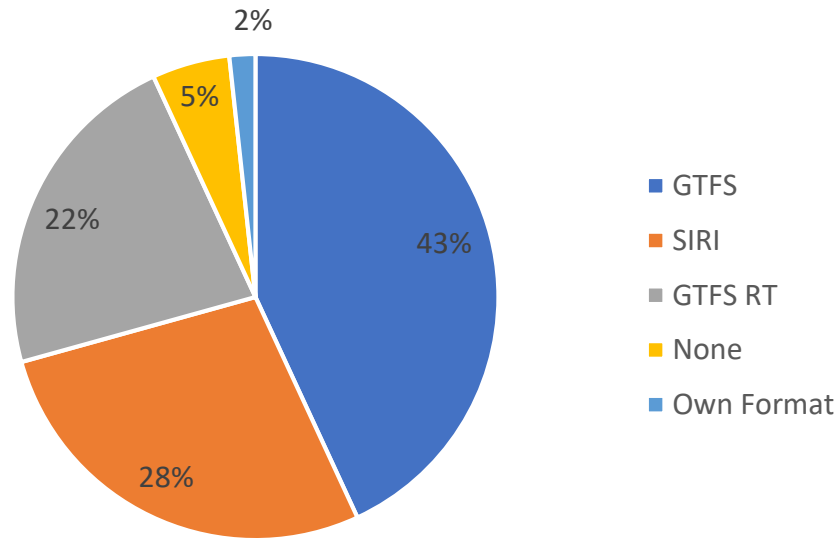

Notes & Observations:

- The move to provide real-time information to passengers is well underway, but there is still some way to go

- There appears to be a number of initiatives in place over the next 12 months to start disseminating information via the specified channels

- Providing information to passengers 'on the move' features, with mobile website and smart phone apps high on the agenda

- The key touchpoints of bus stations, bus stops and onboard are also high priority

- Social media is lagging relative to other channels

How 'digital bus stop' ready are you? Do you have open real-time data and power availability at your bus stops?
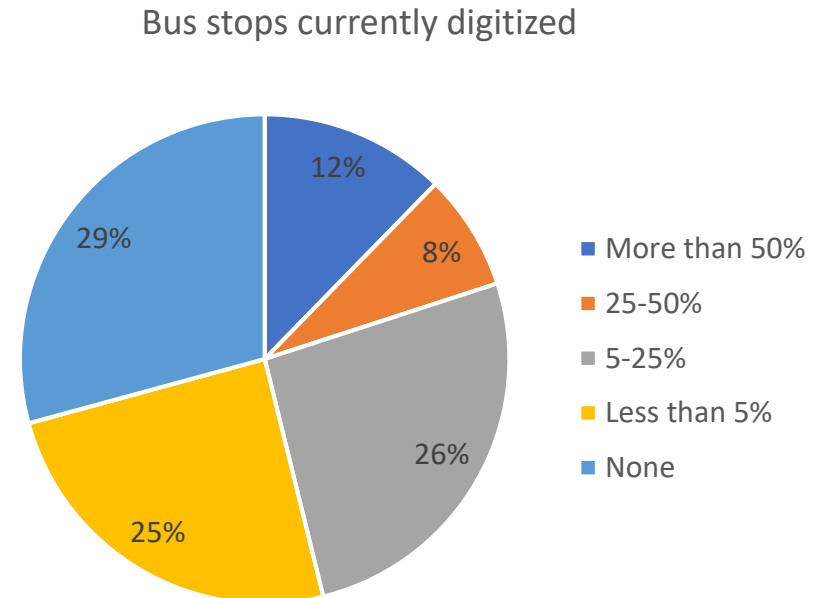
Provide real-time data API

- GTFS — 43%
- SIRI — 28%
- GTFS RT — 22%
- None — 5%
- Own Format — 2%

Bus stops with grid power availability

- More than 50% — 14%
- 25-50% — 21%
- 5-25% — 26%
- Less than 5% — 22%
- None — 17%
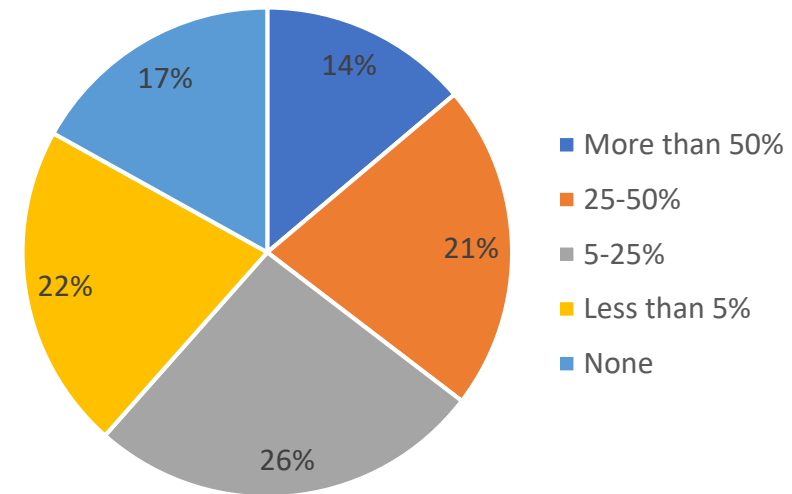
Notes & Observations:

- 95% have some form of real-time data API available, with GTFS being the most common followed by SIRI and GTFS RT

- The majority are in a good position to integrate with a passenger display solution

- 14% benefit from access to grid power for the majority of their network

- 39% of networks have less than 5% or no access to grid power at their bus stops

- A reasonable conclusion to these findings is that vast number of bus stops do not have access to grid power

What bus stop signage do you use and what proportion of your bus stop network is currently digitised?

Bus stop technologies in use

- LCD
- LED
- E-Paper
- Other
- Passive LCD

2%
4%
12%
41%
41%

Bus stops currently digitized

- More than 50%
- 25-50%
- 5-25%
- Less than 5%
- None

12%
8%
26%
25%
29%
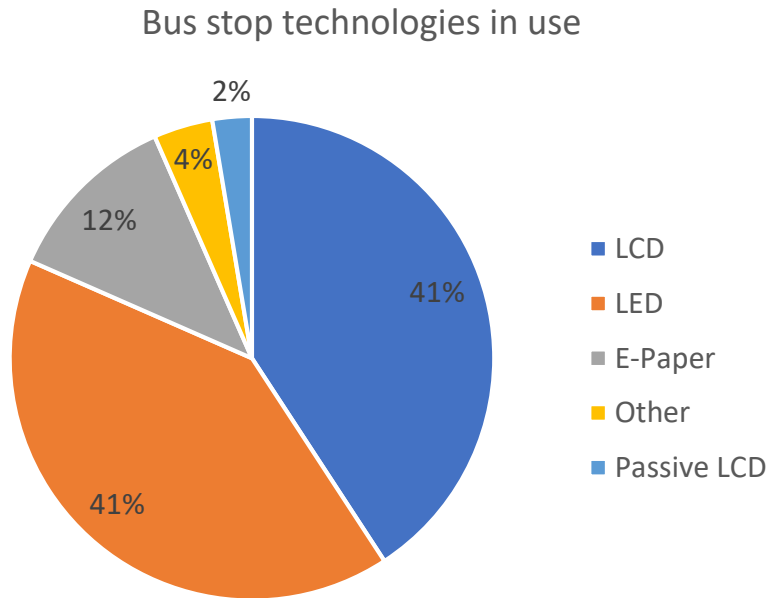
Notes & Observations:

- LCD and LED technologies dominate the market as the more established technologies available, representing 82% of current technology installed

- 18% claim to use more than one technology

- 20% have digital signage on more than 25% of their bus stops

- The majority, 54%, have less than 5% or none of their network digitised

- 75% with digital signage are either piloting new technologies or plan to in the next 2 years (more on this to come)
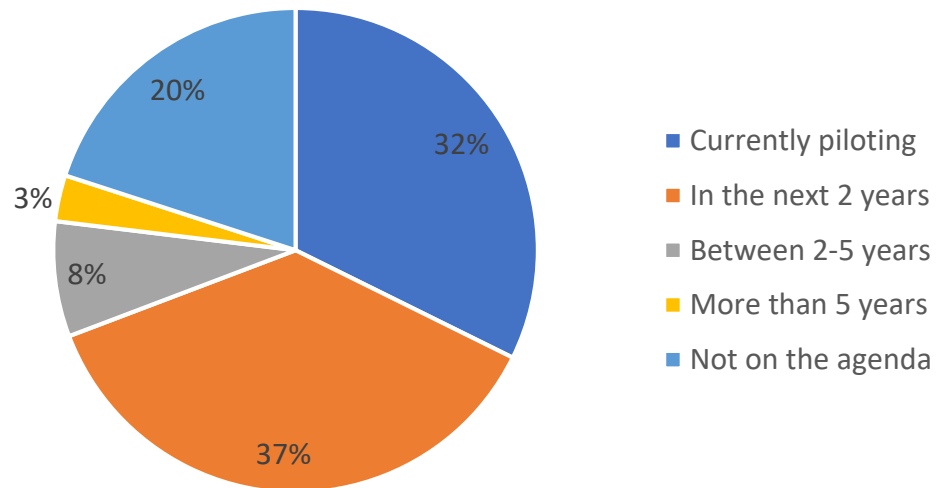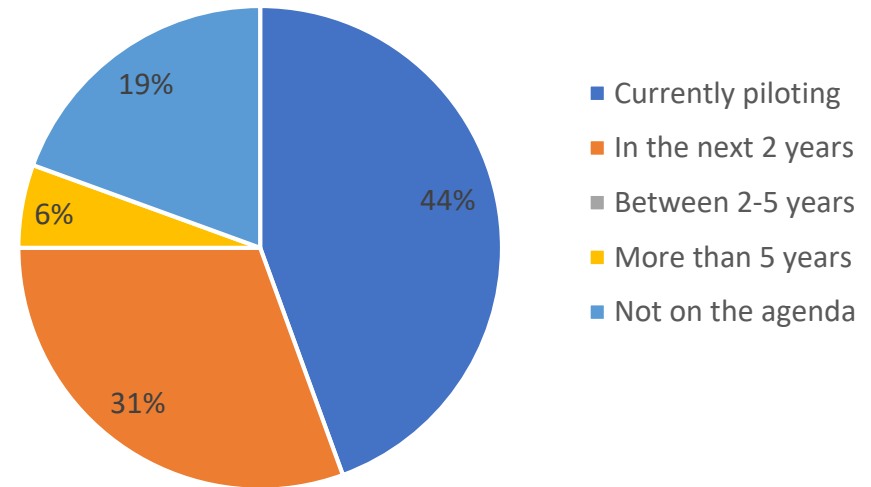
Future Plans

Do you have plans to implement new, digital bus stop signage?

Plans to implement

- ■ Currently piloting
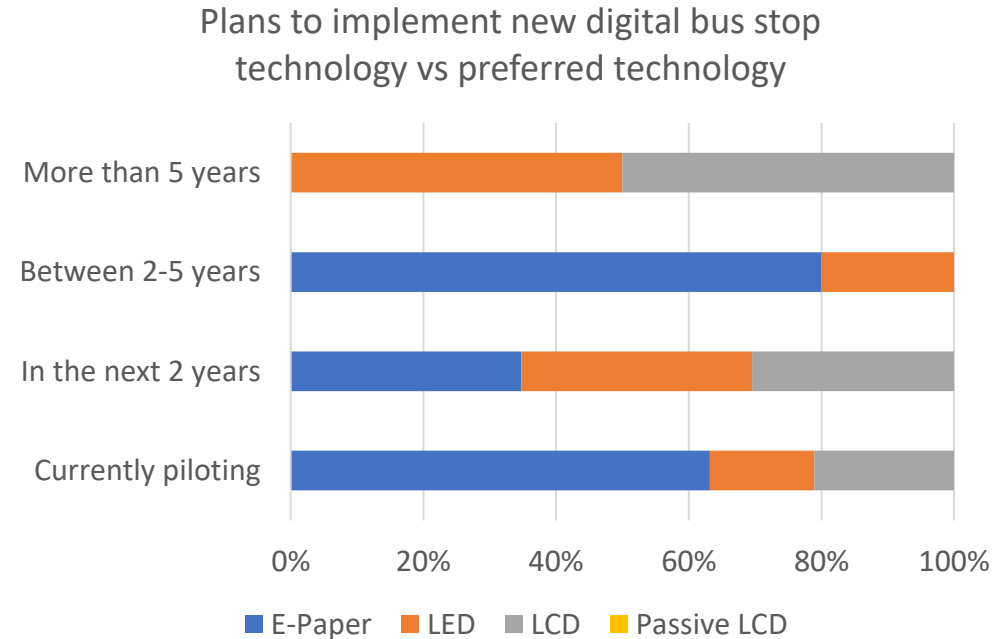- ■ In the next 2 years
- ■ Between 2-5 years
- ■ More than 5 years
- ■ Not on the agenda

32%
37%
8%
3%
20%

Existing digital bus stops vs plans to implement new technology

- ■ Currently piloting
- ■ In the next 2 years
- ■ Between 2-5 years
- ■ More than 5 years
- ■ Not on the agenda

44%
31%
6%
19%

Notes & Observations:

- 32% are currently piloting new digital signage technologies and 37% are planning to do so in the next 2 years

- 11% have longer term plans, with 20% stating that digital signage isn't on the agenda right now

- When we look at those with existing digital bus stop signage, 44% of them are currently piloting new technologies and 31% are planning to do so in the next 2 years

- This suggests that 75% are either replacing first or second generation solutions, or looking for supplementary technologies for requirements not fulfilled by existing signage

What is your preferred technology for new bus stop signage?

Preferred technology

- E-Paper — 41%
- LED — 31%
- LCD — 22%
- Other — 5%
- Passive LCD — 1%

Plans to implement new digital bus stop technology vs preferred technology

Categories (vertical axis): More than 5 years, Between 2-5 years, In the next 2 years, Currently piloting

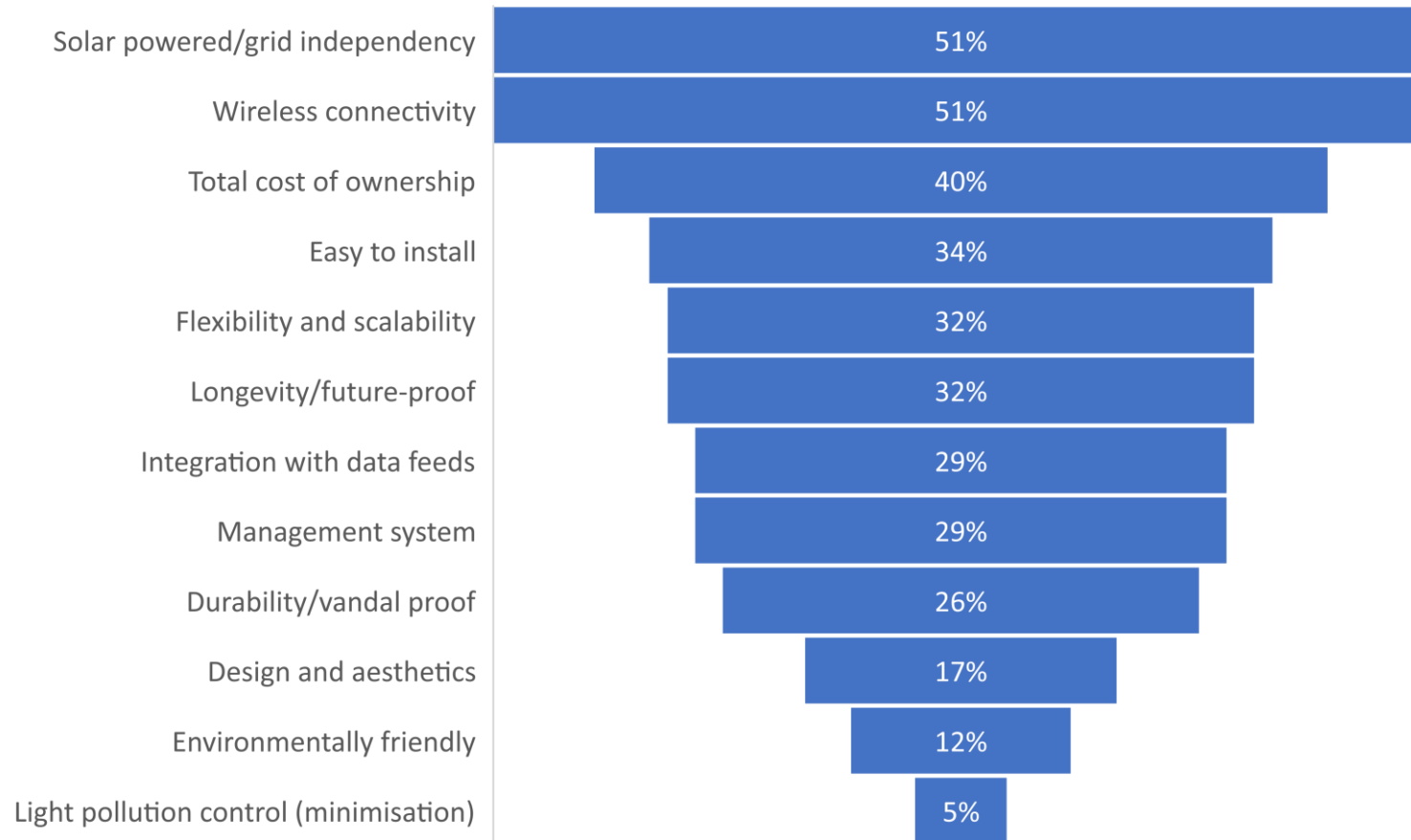Legend: E-Paper, LED, LCD, Passive LCD
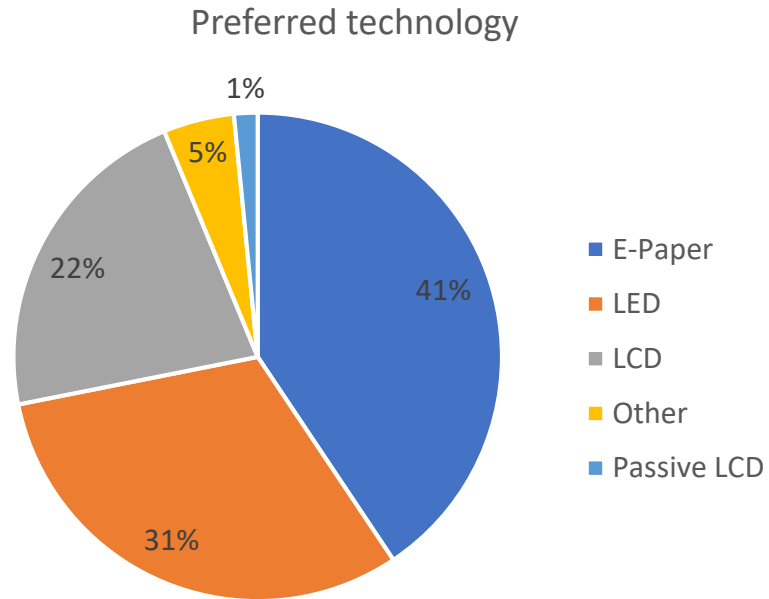
Notes & Observations:

- E-paper features as the preferred new technology for bus stop signage, with 41%

- LED displays take second position followed by LCD signage

- In terms of timeframe, e-paper dominates in terms of current pilots

- Implementation over a 2 year timeframe puts e-paper, LED and LCD on a level playing field
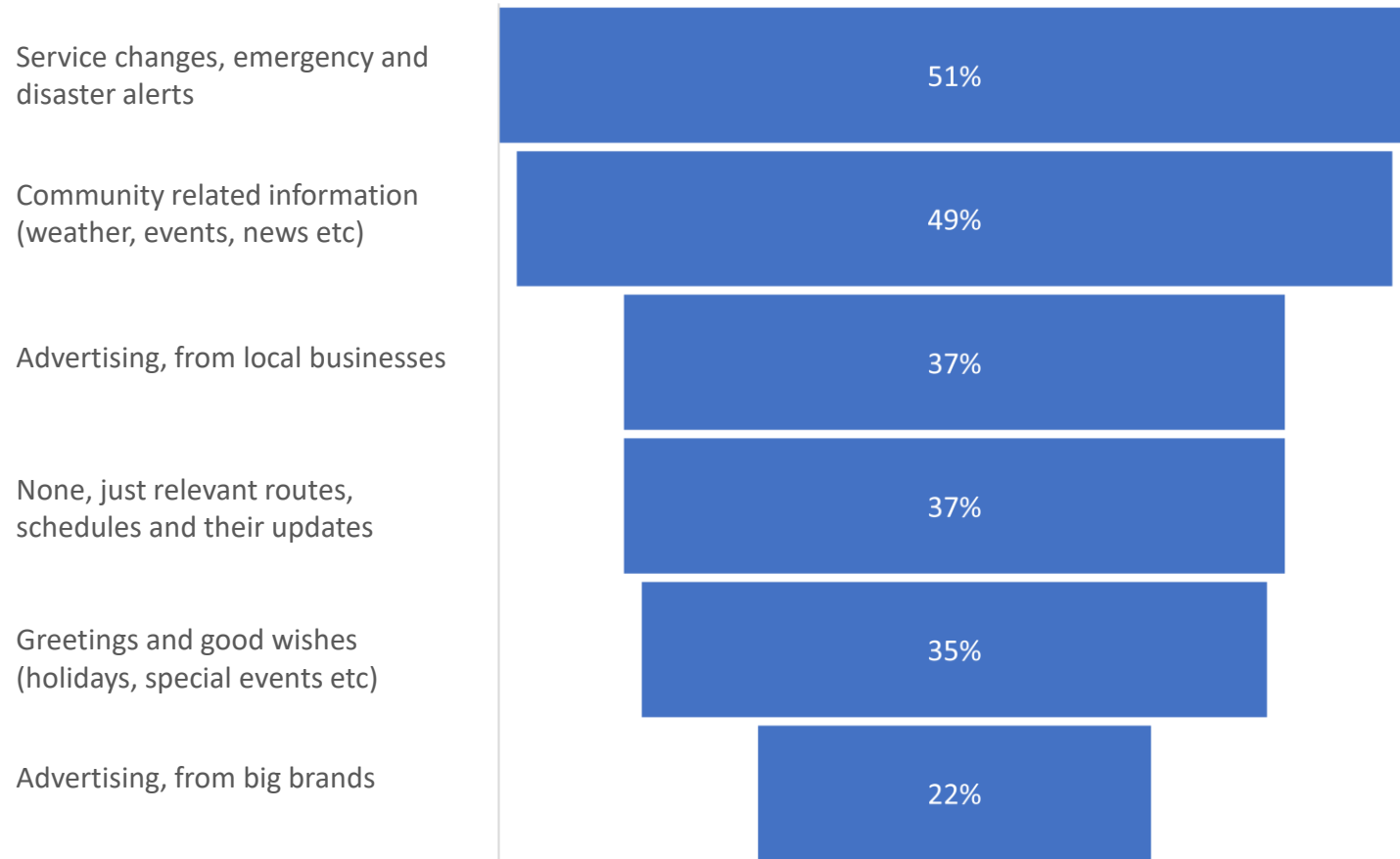
What are your top 3 priorities for selecting a new, digital bus signage technology?

Priority	%
Solar powered/grid independency	51%
Wireless connectivity	51%
Total cost of ownership	40%
Easy to install	34%
Flexibility and scalability	32%
Longevity/future-proof	32%
Integration with data feeds	29%
Management system	29%
Durability/vandal proof	26%
Design and aesthetics	17%
Environmentally friendly	12%
Light pollution control (minimisation)	5%

Notes & Observations:

- Solar powered and wireless connectivity were both selected by 51%, followed by total cost of ownership as the top 3 priorities

- The next layer we have easy to install, flexibility and scalability and longevity

- The third layer of priority features integration, management and durability

- This is all very positive, aligning selection priorities with Papercast e-paper display features

What information other than bus arrivals, schedules and routes do you/would you display on a digital bus stop sign?

Service changes, emergency and disaster alerts
51%

Community related information (weather, events, news etc)
49%

Advertising, from local businesses
37%

None, just relevant routes, schedules and their updates
37%

Greetings and good wishes (holidays, special events etc)
35%

Advertising, from big brands
22%

Notes & Observations:

- The majority see the value of providing enhanced travel and community information to passengers

Return on Investment
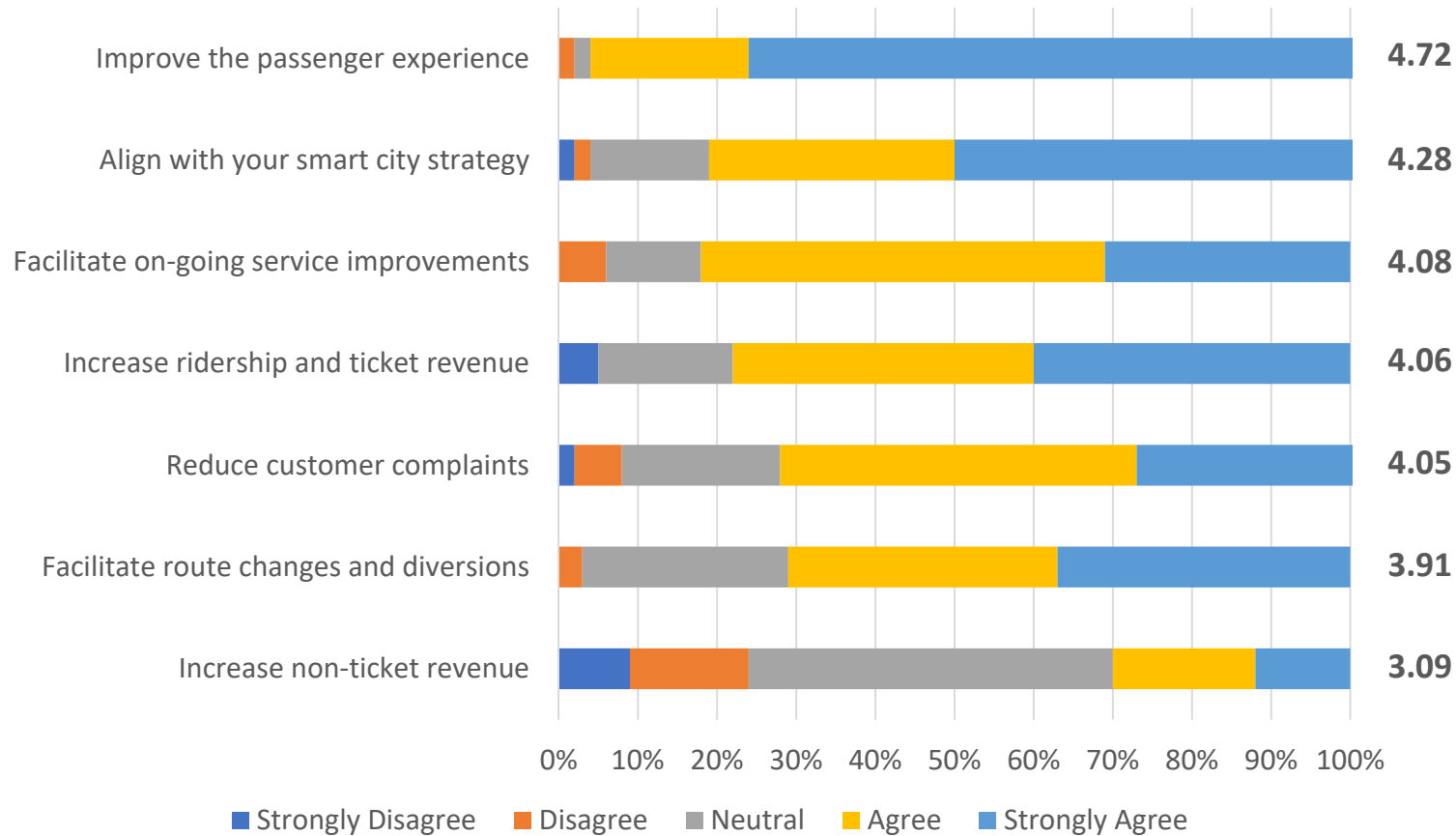
Providing real-time information to passengers at bus stops will…

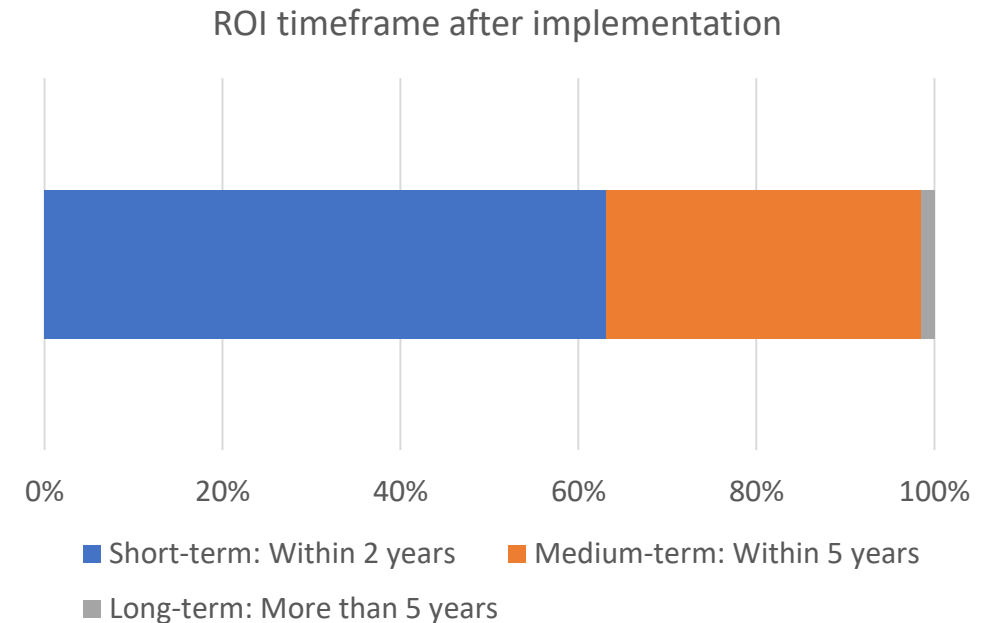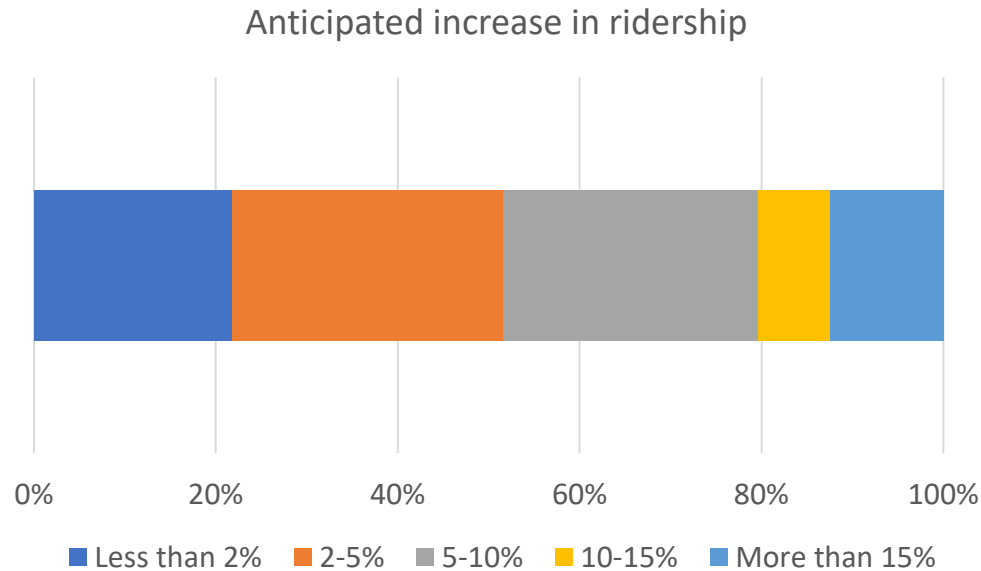*Also Showing Average Score: Strongly Disagree = 1 and Strongly Agree = 5*

Category	Score
Improve the passenger experience	4.72
Align with your smart city strategy	4.28
Facilitate on-going service improvements	4.08
Increase ridership and ticket revenue	4.06
Reduce customer complaints	4.05
Facilitate route changes and diversions	3.91
Increase non-ticket revenue	3.09

Legend: ■ Strongly Disagree ■ Disagree ■ Neutral ■ Agree ■ Strongly Agree

Notes & Observations:

- Generally there is consistent agreement that real-time passenger information will bring customer, service and financial benefits

- The exception is increasing non-ticket revenues where only 30% agree of strongly agree

- Top 3 overall are passenger experience, smart city alignment and facilitating on-going service improvements

What % increase in ridership do you anticipate and when do you expect the benefits will be realised after implementing RTPI?

Anticipated increase in ridership

Legend: ■ Less than 2% ■ 2-5% ■ 5-10% ■ 10-15% ■ More than 15%

ROI timeframe after implementation

Legend: ■ Short-term: Within 2 years ■ Medium-term: Within 5 years ■ Long-term: More than 5 years

Notes & Observations:

- On the basis that an increase in ridership by 2% could result in substantial revenue gains for some operators, it is very positive that 78% expect an increase in ridership

- The majority are looking at up to 10% gains, whereas 21% expect more than 10% improvement and 13% of those expect over 15% increase

- The majority feel that the benefits from implementing passenger information systems will be realised in the short term

What strategies are you implementing to improve revenues over the next 3 years?
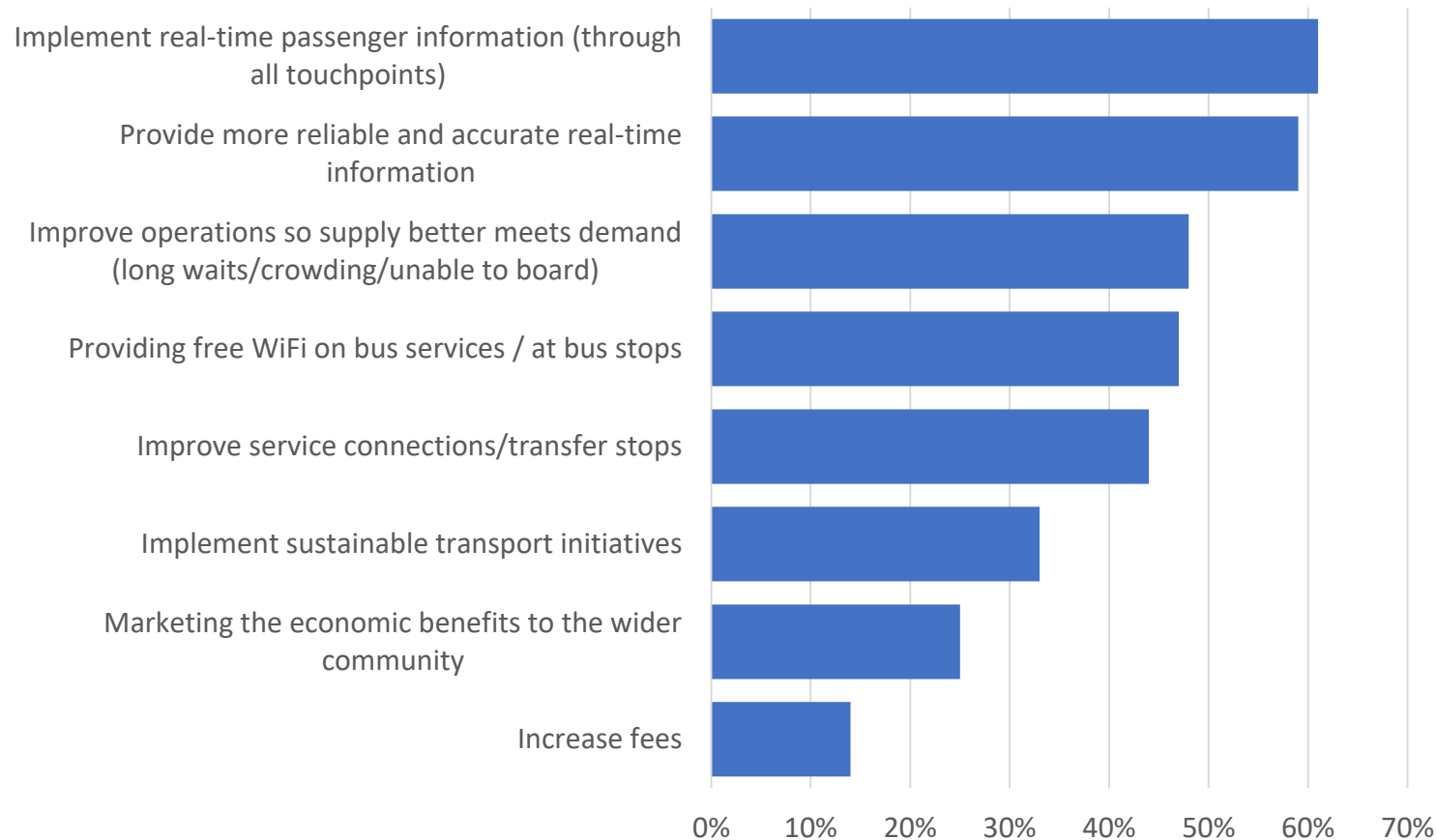
Notes & Observations:

- Real-time passenger information and more reliable information feature as the top strategies for improving revenues over the next 3 years

- This is followed by operational improvements and providing WiFi to customers

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