

STANLEY PARK MOBILITY STUDY

Evaluation Process

The following document outlines the evaluation process for the Stanley Park Mobility Study, and how 21 options were scored, evaluated and narrowed down to six potential options for public input.

Introduction

21 mobility options

Through a review of existing conditions of Stanley Park and input from public and stakeholders, 21 potential mobility options were developed.

Existing Vehicle Travel Conditions

- Existing Conditions (Baseline)
- Existing Park Drive with Additional Bike Lane

Temporary Network Change

- 'Car Free' Days
- Time-based Network Restrictions

Vehicle Demand Management

- Vehicle Time Slot Booking
- Vehicle Access Fee

Reallocate One Lane of Park Drive

- Park Drive with Protected Bike Lane
- Bidirectional Bike Lane
- Park Drive with HOV Lane
- Park Drive with Shared Transit & Bike Lane
- Park Drive with Dedicated Transit Lane

Two-Way Park Drive for Vehicles

- Loop Break
- Bidirectional Park Drive from Beach Ave to Second Beach
- Bidirectional Park Drive from Beach Ave to Third Beach
- Bidirectional Park Drive for Vehicles

Car Free Park Drive

- Shuttle/Transit with Car Free Park Drive
- Shuttle/Transit with dedicated Bike Lane
- Bidirectional Car Free Park Drive & Active Mode Priority
- Bidirectional Car Free Park Drive & Transit & Active
- Unidirectional Car Free Park Drive & Active Mode Priority Car Free Park Drive
- Car Free Park Drive with Separated Transit & Bike Lanes

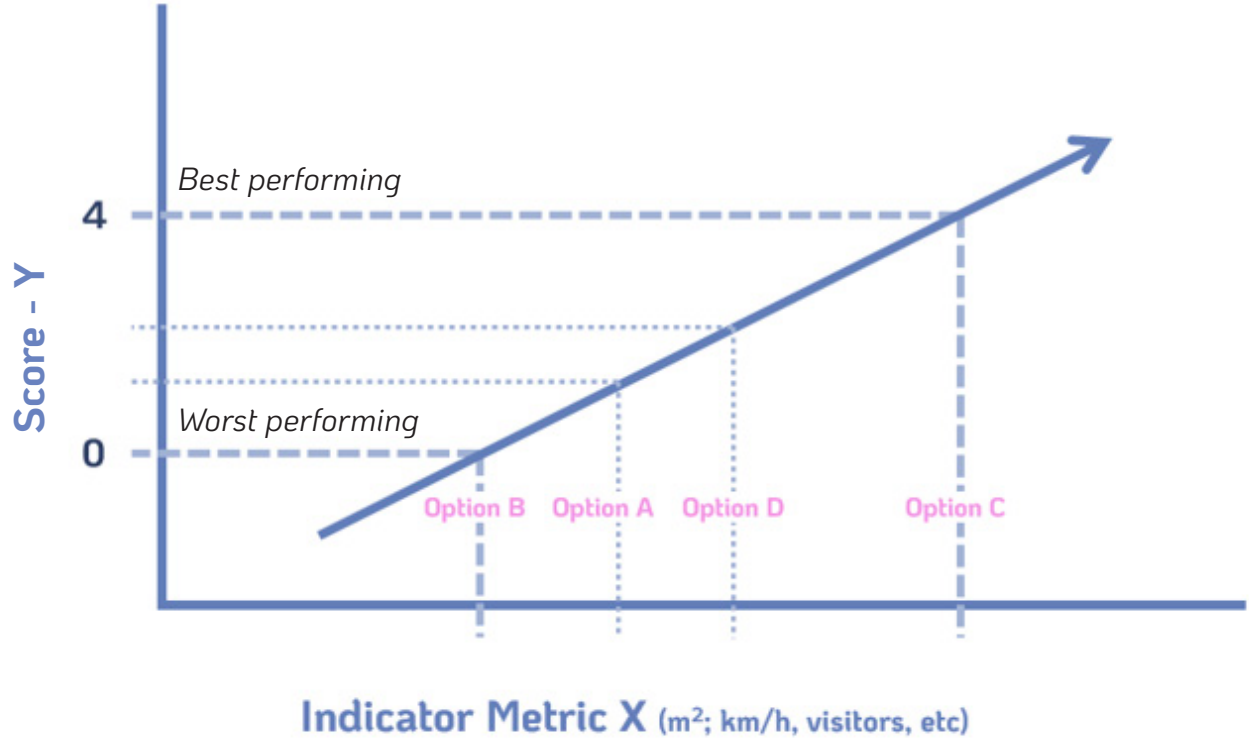
Transit Service Change Only

- Shuttle/Transit Service & Two Vehicle Lanes

How Options Were Evaluated

How did we get to six options?

A technical analysis was conducted where the Study’s seven guiding principles and their indicators were used to measure & score each of the options. Metrics were used to measure each indicator, which was then given a score between 4 and 0 relative to the best and worst performing scores respectively.



For example, under safety, emergency response times were simulated for all options. The fastest travel emergency response time in mins would be the best performing and therefore got a 4, while the slowest travel emergency response time in mins would be a 0

Guiding Principles



Safety



Accessibility



Economic Vitality



Climate Action & Environmental Protection



Flexible & Resilient System



Connected Transportation Network



Enhanced Park Experience

Indicators/ Metrics

(Using Data & Technical Analysis)

- 1.1 number of conflicts,
- 1.2 emergency access,
- 1.3 crime reduction,
- 1.4 speed reduction

- 2.1 motorized access for people with disabilities,
- 2.2 access for equity denied youth & seniors,
- 2.3 non-mobility related disabilities,
- 2.4 affordable travel

- 3.1 staff access to businesses,
- 3.2 accommodates increased visitation,
- 3.3 supports revenue for Park Board,
- 3.4 economically feasible

- 4.1 reduce carbon emissions,
- 4.2 reduce pavement
- 4.3 reduce impacts on the natural environment

- 5.1 unobstructed roads & pathways,
- 5.2 adaptable infrastructure,
- 5.3 more travel route options,
- 5.4 supports movement of crowds during events

- 6.1 vehicle access to the Park’s regional destinations,
- 6.2 public transit opportunities,
- 6.3 connectivity at park entrances
- 6.4 more mode options

- 7.1 relaxed experience,
- 7.2 recreational travel opportunities,
- 7.3 reduces air pollution,
- 7.4 reduces noise pollution

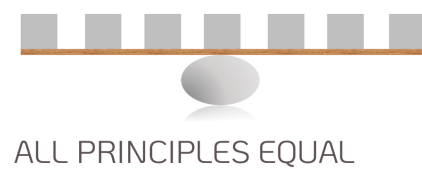
How were mobility options further tested?

BASE EVALUATION Using metrics to generate a total score & rank

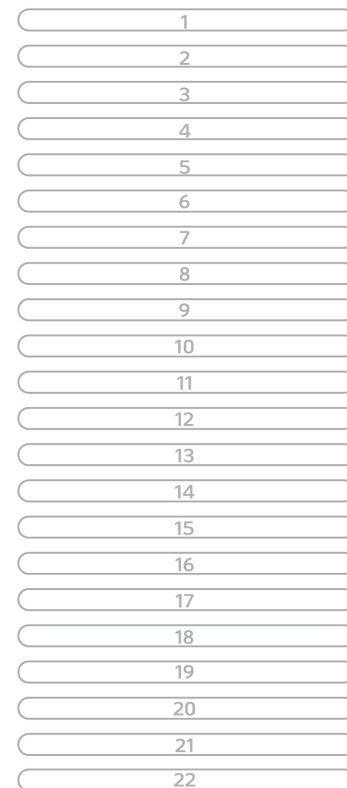
DESCRIPTION

First ranking is by "base score" where the score is not weighted and 7 principles are considered equal (i.e. safety is no more important than economic vitality).

PRINCIPLE WEIGHTING

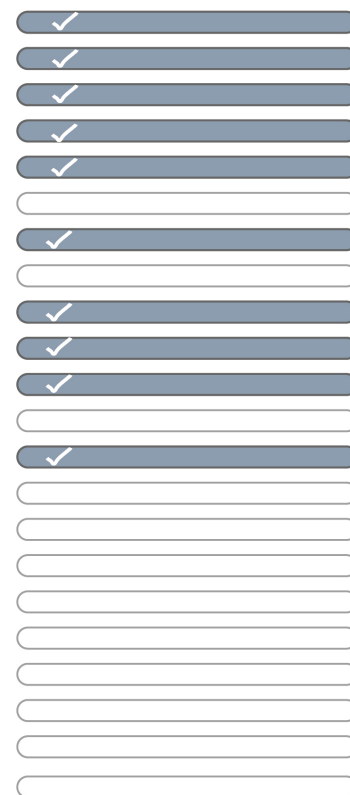


OPTIONS RANKING



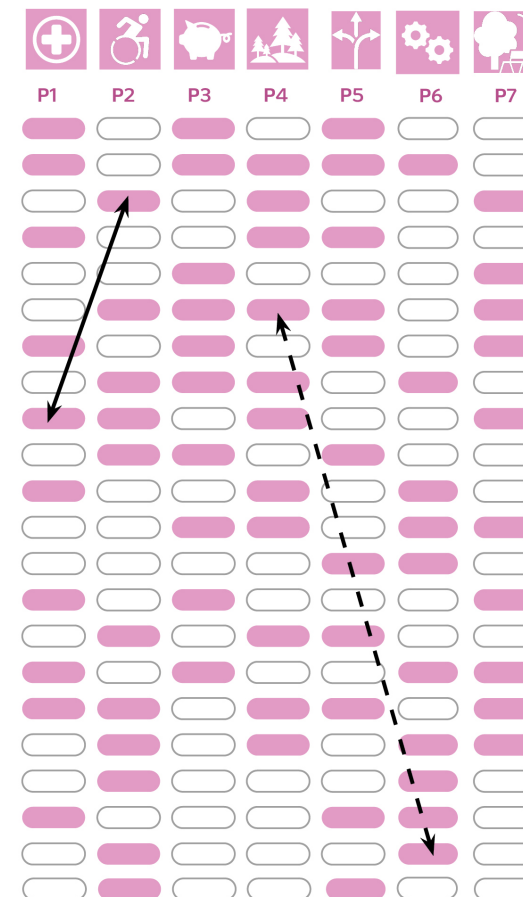
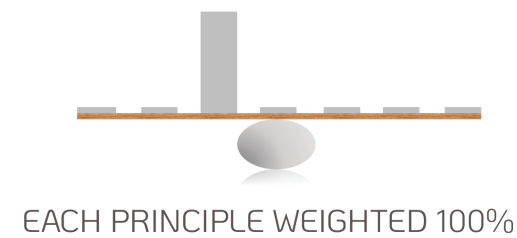
TEST CRITERIA A MST, Public & Stakeholder Priorities Test

Scores are then weighted by each principle, according to their importance to the public, stakeholders and MST (based on principle priority survey completed in Phase 1 prior to the evaluation). The top 10 scoring options passed Test A



TEST CRITERIA B Impact Analysis

The evaluation is run seven times where each principle gets a turn at being the only principle that matters (100% weighting) while the other six principles are zero.



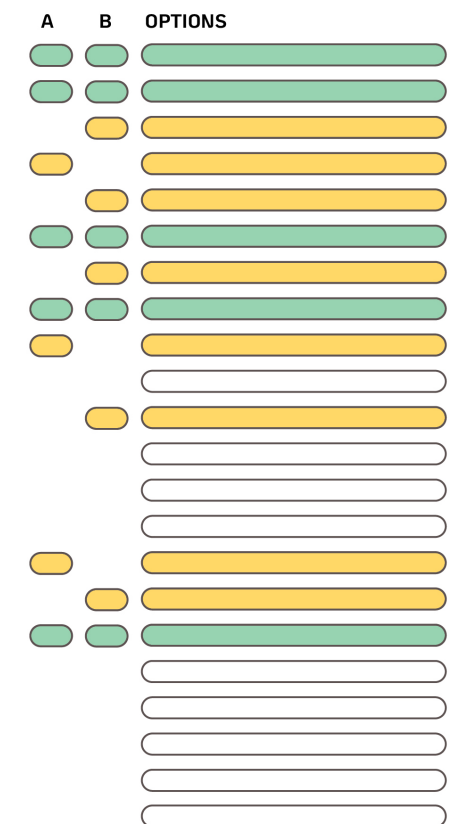
Options that consistently score high, no matter what principle is prioritized, passes this test

Options that score all over the place are too extreme, and are removed from the list. For example, "Bikes only (no transit)" scores really high for safety and climate action, but very low for accessibility.

POTENTIAL OPTIONS For Final Round of Public Engagement

Options that pass both tests form the six potential mobility options for the final round of public engagement.

- PRIMARY OPTIONS (meets both ranking test criteria)
- SECONDARY OPTIONS (meets one ranking criteria; could play a role in framing/final recommendations)



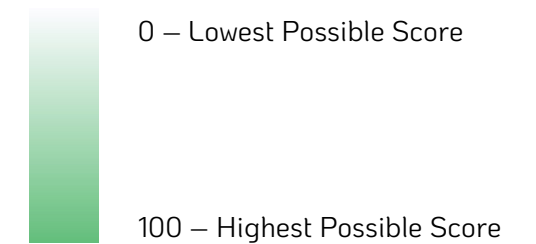
Score Summary of the Six Options



How did the six options score against each guiding principle?

	Existing Conditions	A Time-based Vehicle Access Restrictions	B Vehicle Time Slot Booking	C Park Drive with Dedicated Bus Lane	D Park Drive with Dedicated Bike Lane	E Car-Free Park Drive with Dedicated Bike Lane & Dedicated Bus Lane	F Car-Free Park Drive for Active Transportation & Shuttle/Transit Only
Safety	23%	47%	35%	52%	40%	73%	81%
Accessibility	42%	80%	47%	61%	76%	81%	93%
Economic Vitality	57%	37%	40%	69%	57%	48%	43%
Climate Action & Environmental Protection	49%	68%	60%	54%	69%	82%	93%
Flexible & Resilient System	59%	43%	53%	52%	25%	37%	83%
Connected Transportation Network	31%	68%	84%	84%	86%	74%	66%
Enhanced Park Experience	10%	51%	32%	17%	30%	79%	90%

The chart on the left shows the total score for each principle for each of the top six options. The percentage totals the technical scoring across multiple indicators for each principle, which are broken down further on the following pages



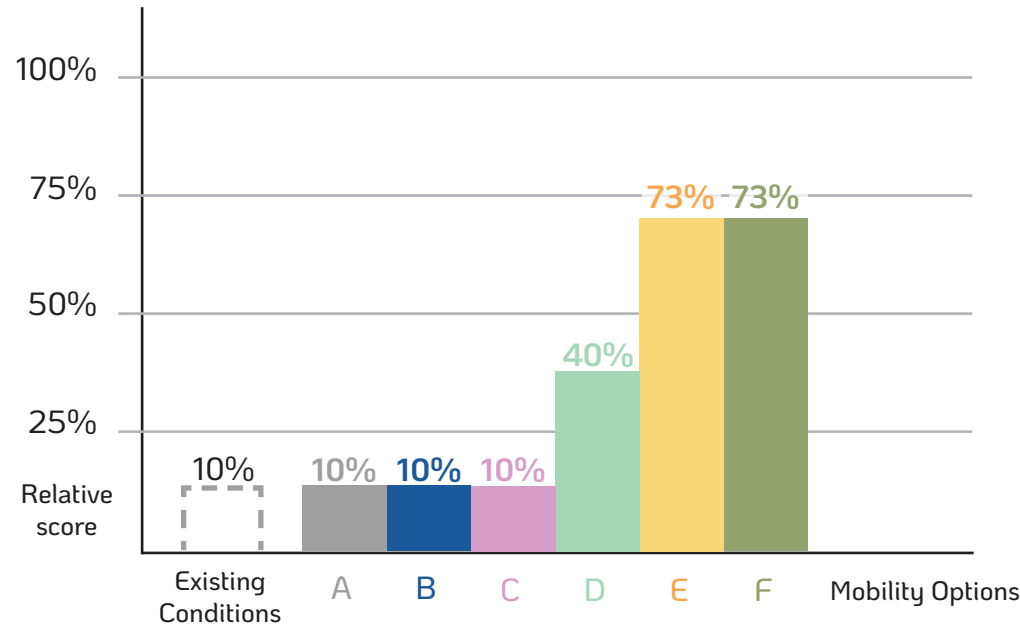
Safety



1.1

Controlled Road Speeds

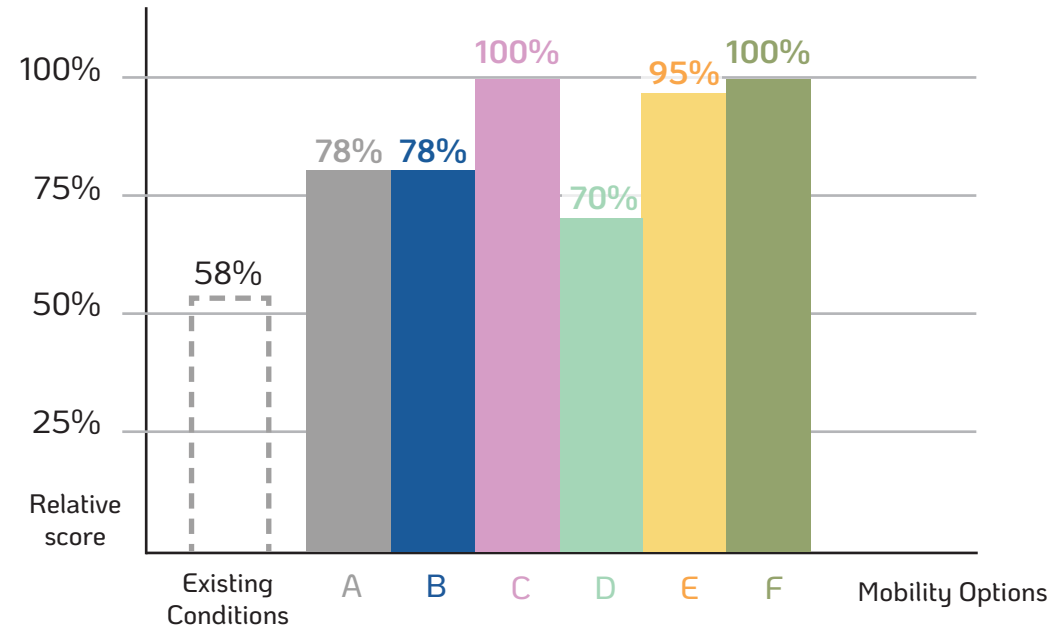
How will options reduce speeds of all road users on Park Drive?



1.2

Emergency Response Times

How fast can emergency vehicles get from the boundary to key destinations throughout the park?



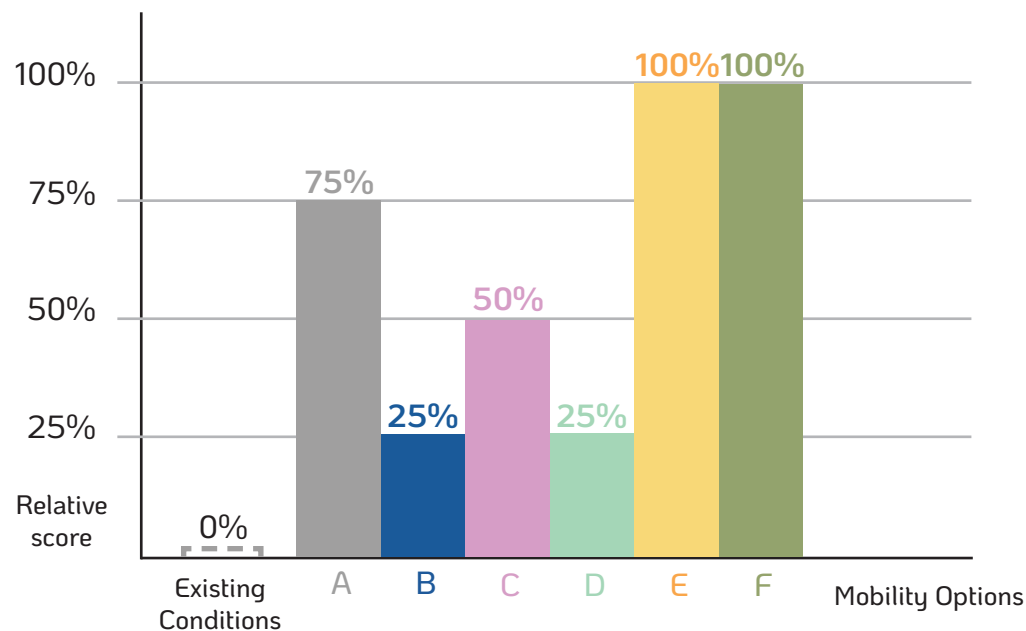
Options Legend

- Existing Conditions (what Park Drive is like today)
- Option A - Time Based Vehicle Restrictions (during restricted times only)
- Option B - Vehicle Time Slot Booking
- Option C - Park Drive with Dedicated Bus Lane
- Option D - Park Drive with Dedicated Bike Lane
- Option E - Car Free Park Drive with Dedicated Bike & Dedicated Bus Lane
- Option F - Car Free Park Drive with Shuttle/Transit & Bidirectional Active Transportation

1.3

Safe & Secure from Crime

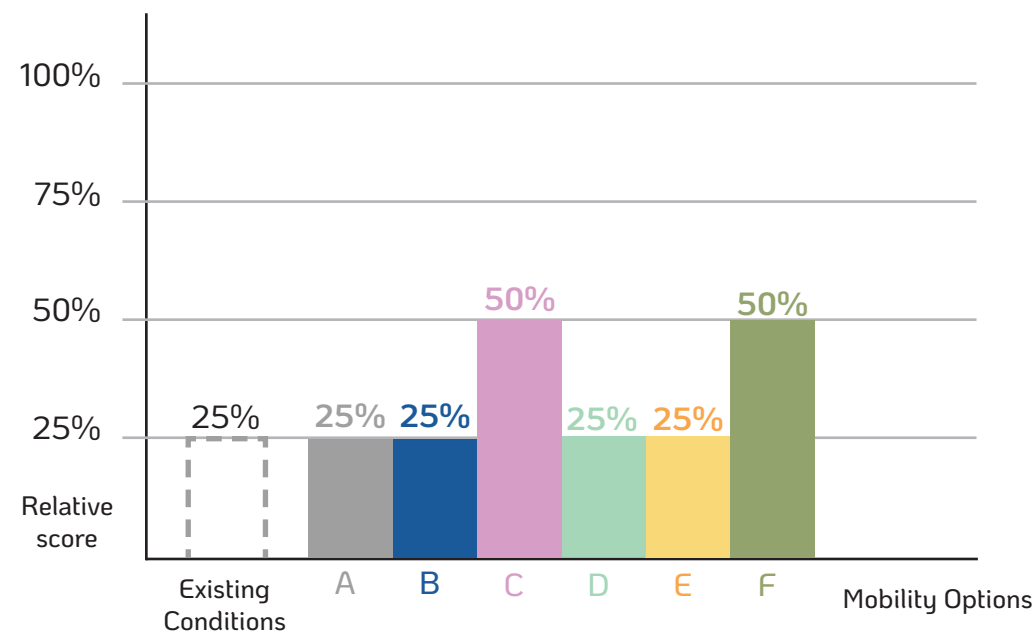
How will options help limit the number of crime occurrences in the park?



1.4

User Conflicts

How will options reduce conflicts between different modes?



Key Takeaways

Options E and F are the safest by facilitating emergency response in the park with car-free lanes, reducing conflicts and designing for reduced road speeds.

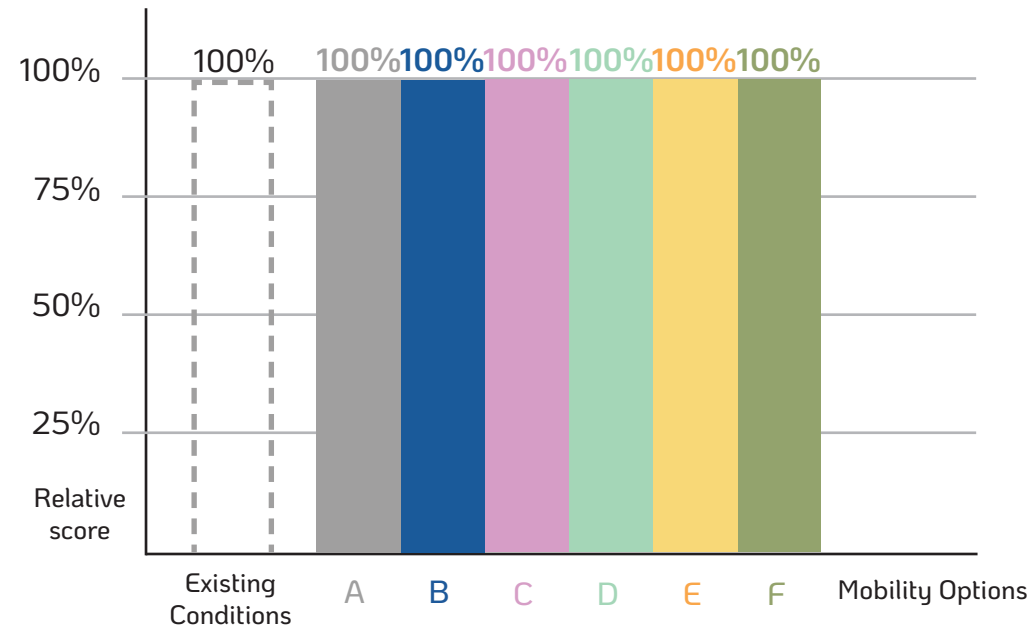
Relative score - how well each option scored against the best performing (100%) and worst performing (0%) out of all 21 options evaluated.

Accessibility



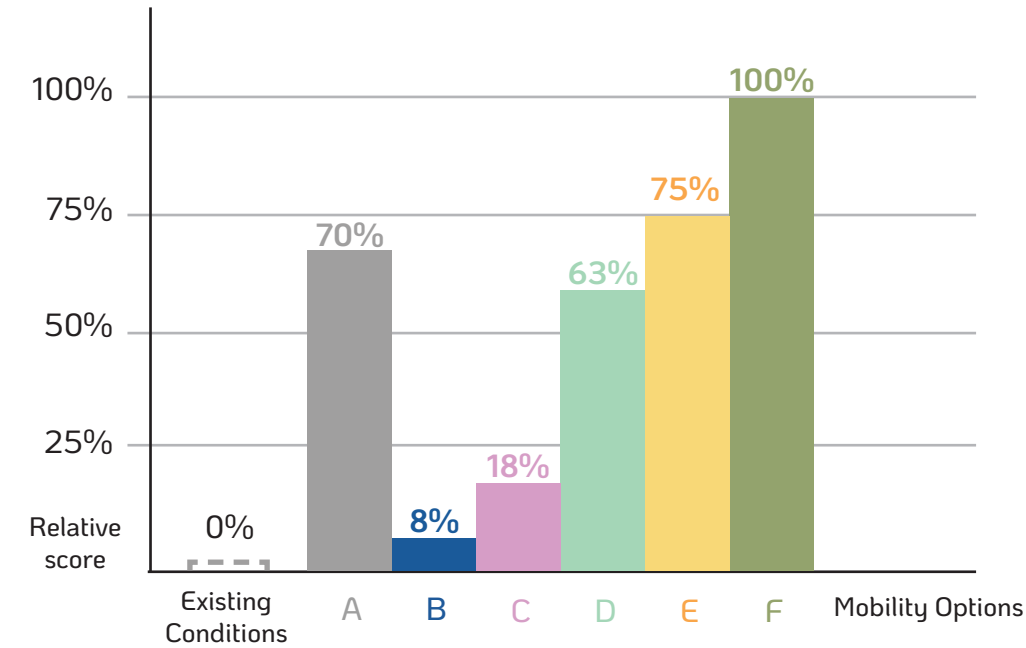
2.1 Access for People with Mobility Disabilities

How will options support motorized access for people with disabilities?



2.2 Access for Equity Denied Youth & Seniors

How will options increase access to the park for equity denied older and younger residents?

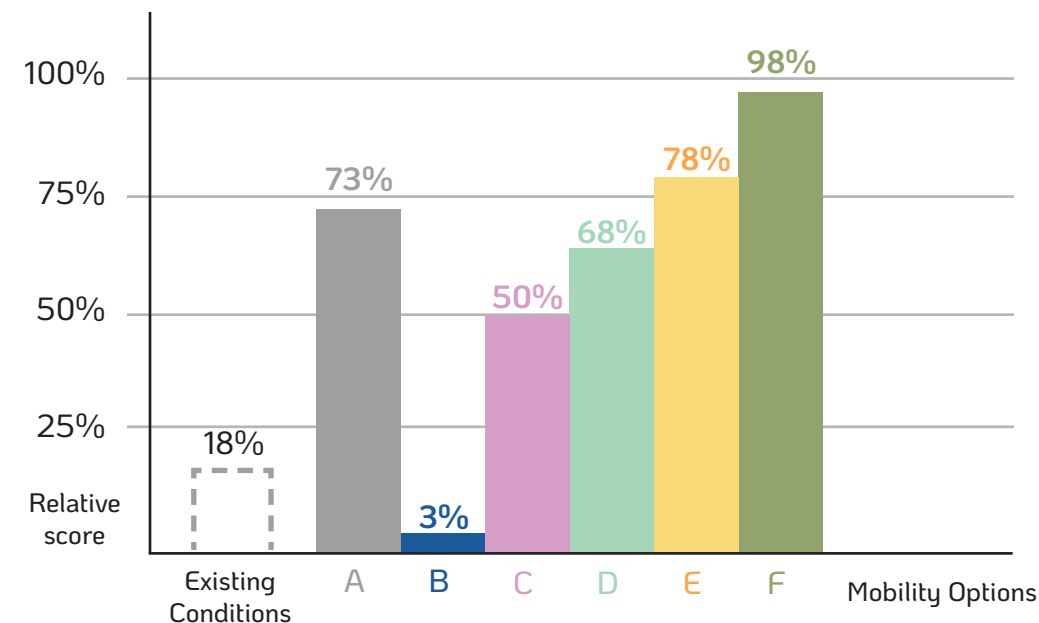


Options Legend

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- Option F - Car Free Park Drive with Shuttle/ Transit & Bidirectional Active Transportation

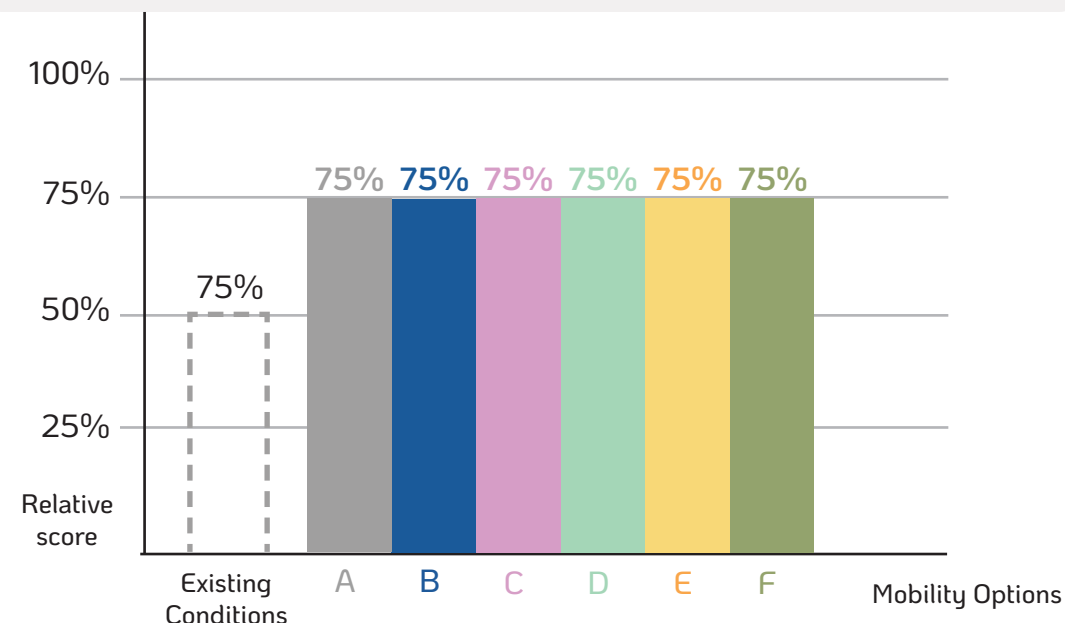
2.3 Access for People with Other Disabilities

How will options support accessibility for people with disabilities that are non-mobility related (e.g., visual, hearing, or cognitive disabilities)?



2.4 Affordable Travel

How will options improve affordability of visiting the park, particularly for those with limited means?



Key Takeaways

Options D, E, and F are the most accessible because of the high access for young and older residents and improved travel for people with disabilities (not related to mobility)

Relative score - how well each option scored against the best performing (100%) and worst performing (0%) out of all 21 options evaluated.

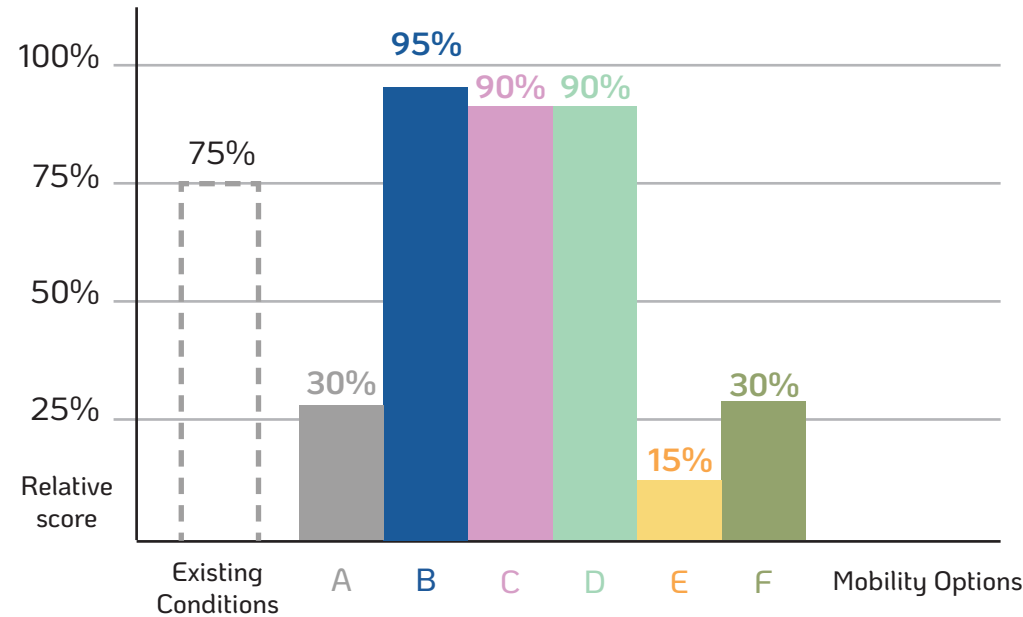
Economic Vitality



3.1

Staff Access to Businesses

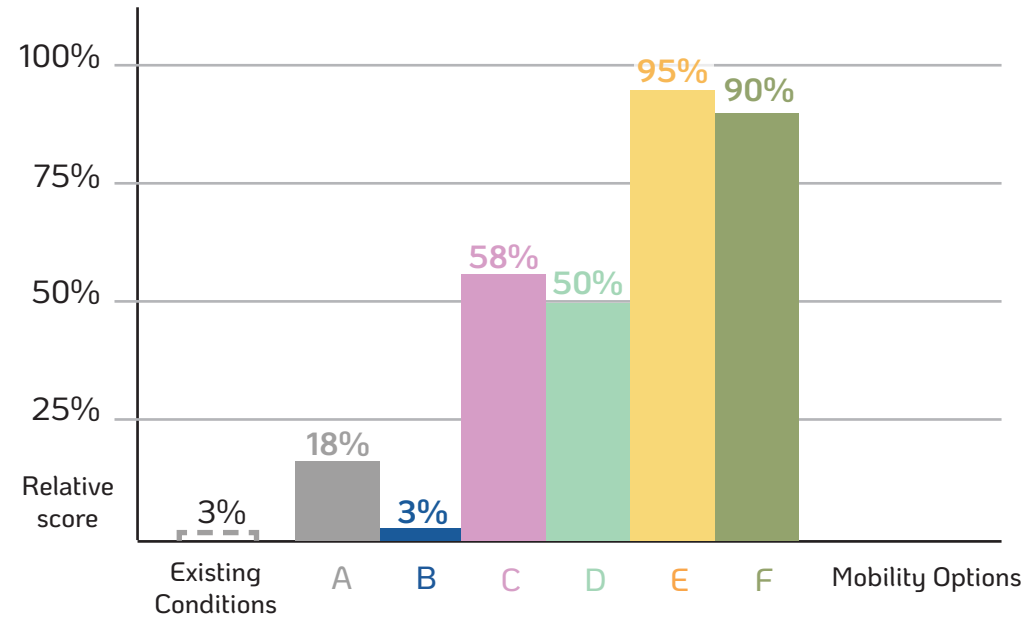
How will options optimize travel times for staff to access businesses in the park?



3.2

Number of Potential Visitors

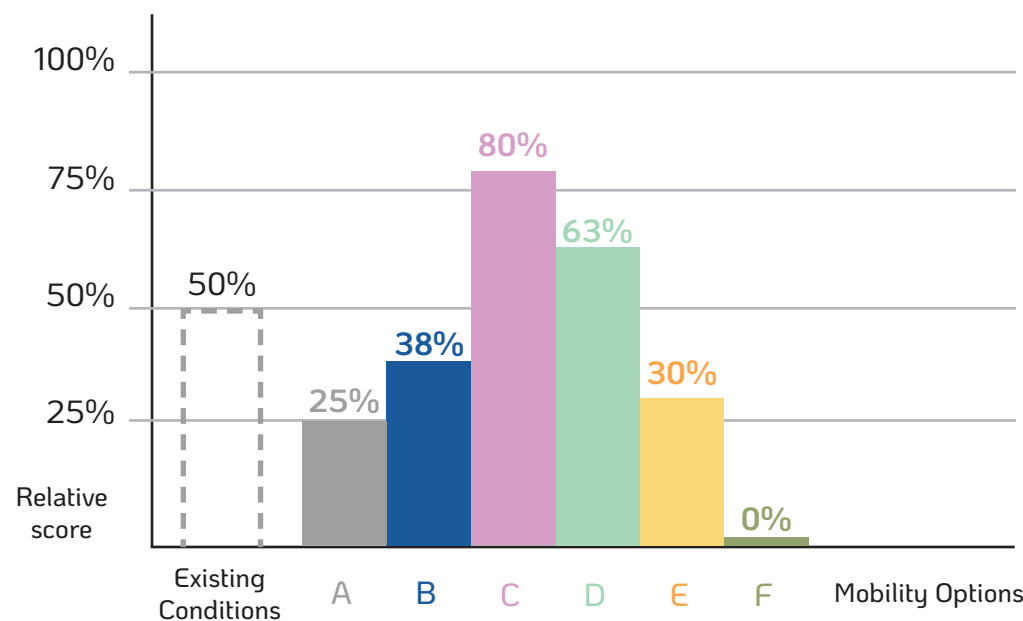
How will options provide efficient ways to accommodate an increase in park visitation?



3.3

Park Revenue

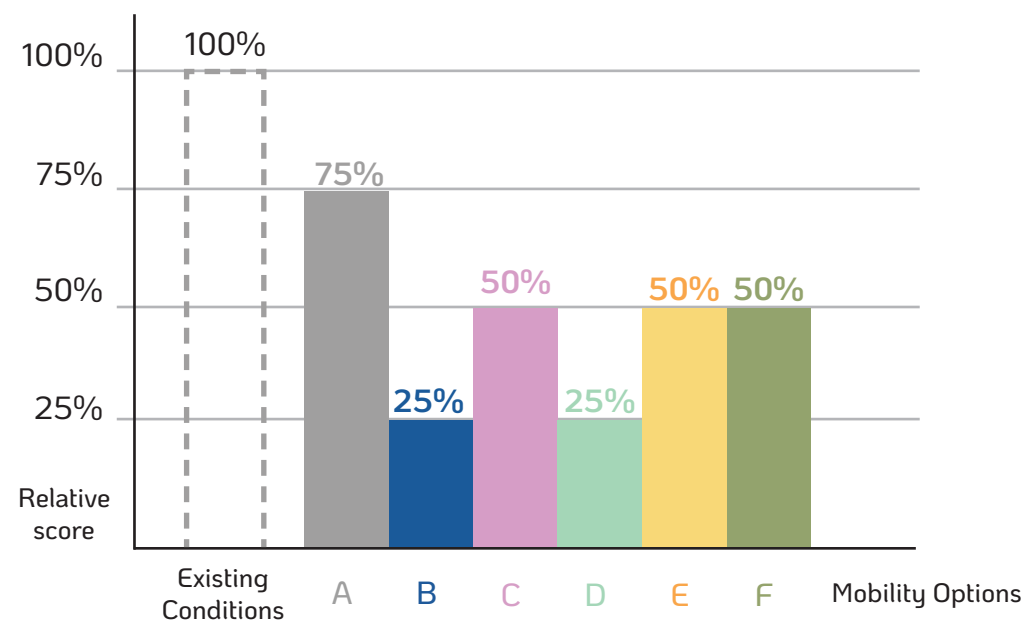
How will options support a short term increase in revenue (through parking & use fees)?



3.4

Low Capital & Operating Cost

How will options provide new services or infrastructure that is not overly expensive?



Options Legend

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- Option E - Car Free Park Drive with Dedicated Bike & Dedicated Bus Lane
- Option F - Car Free Park Drive with Shuttle/ Transit & Bidirectional Active Transportation

Key Takeaways

Option C performs best across all economic vitality indicators, including high levels of access to business, revenue for the Park Board, and relatively low implementation cost.

Relative score - how well each option scored against the best performing (100%) and worst performing (0%) out of all 21 options evaluated.

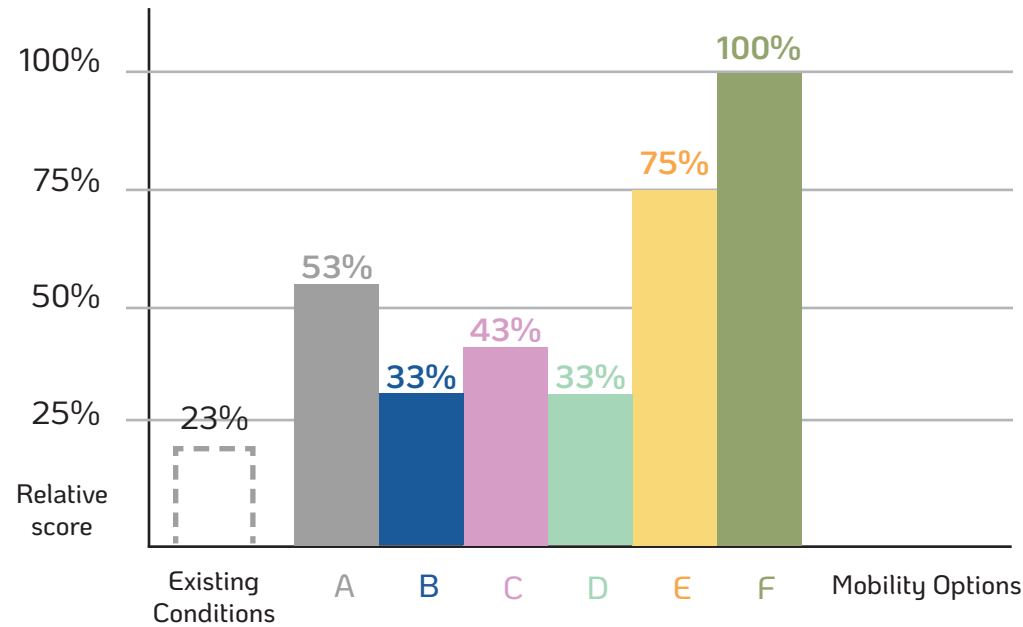
Climate Action & Environmental Protection



4.1

Reduces Transportation Emissions

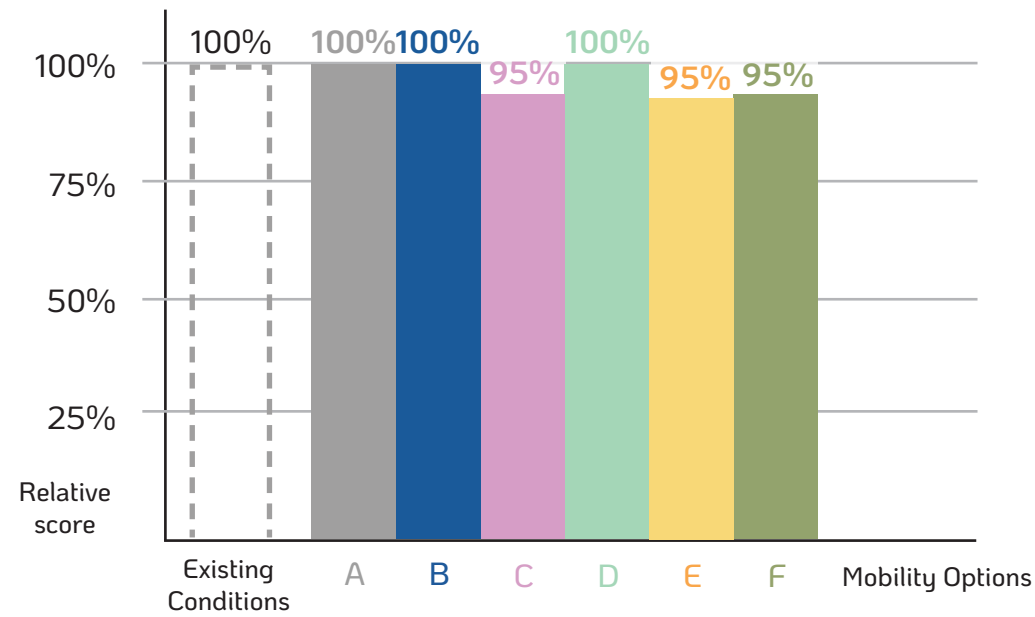
How will options reduce the amount of carbon emissions from transportation?



4.2

Reduces Pavement

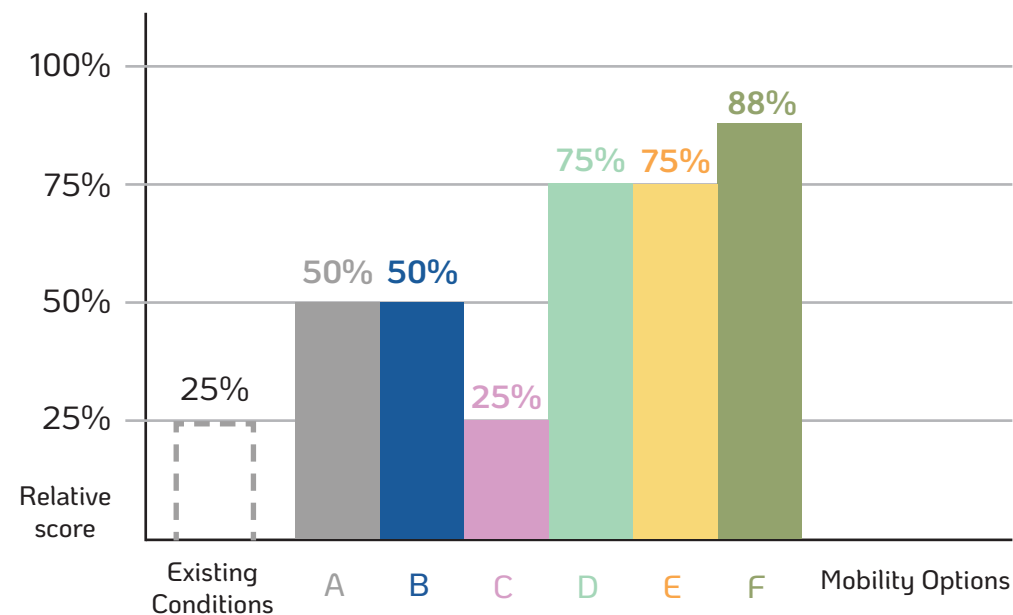
How will options reduce pavement and maximize the amount of green space in the park?



4.3

Reduces Impact on Environment

How will options reduce the impact to the natural areas of the park (water quality, habitat, etc)



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- Option F - Car Free Park Drive with Shuttle/ Transit & Bidirectional Active Transportation

Key Takeaways

Options E and F perform best under the Climate Action and Environmental Protection principle due to the reduced emissions and impacts as a result of fewer cars in the park.

Relative score - how well each option scored against the best performing (100%) and worst performing (0%) out of all 21 options evaluated.

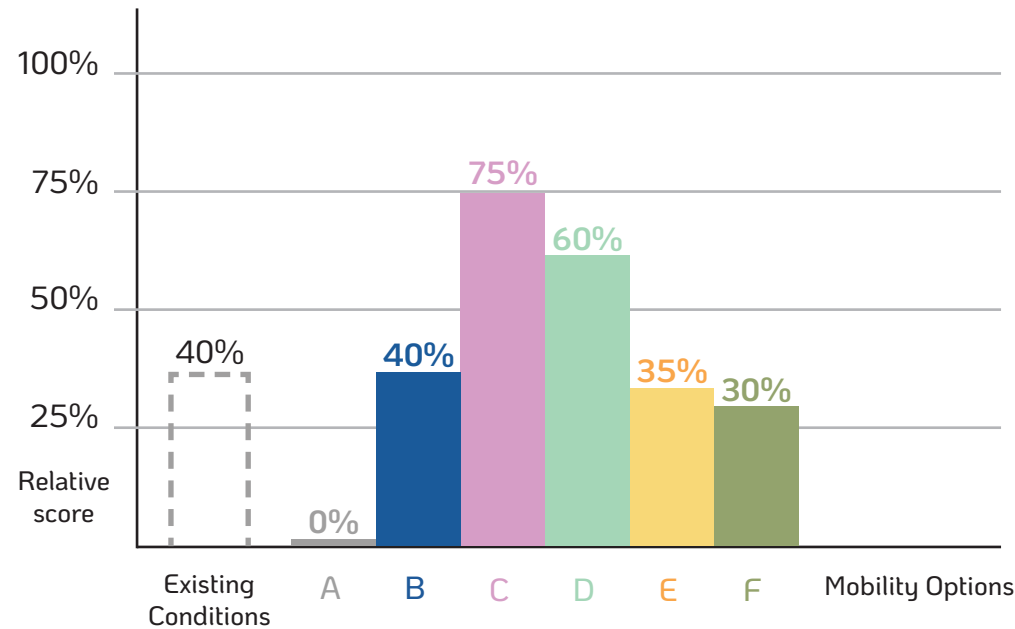
Flexible & Resilient System



5.1

Movement of Crowds

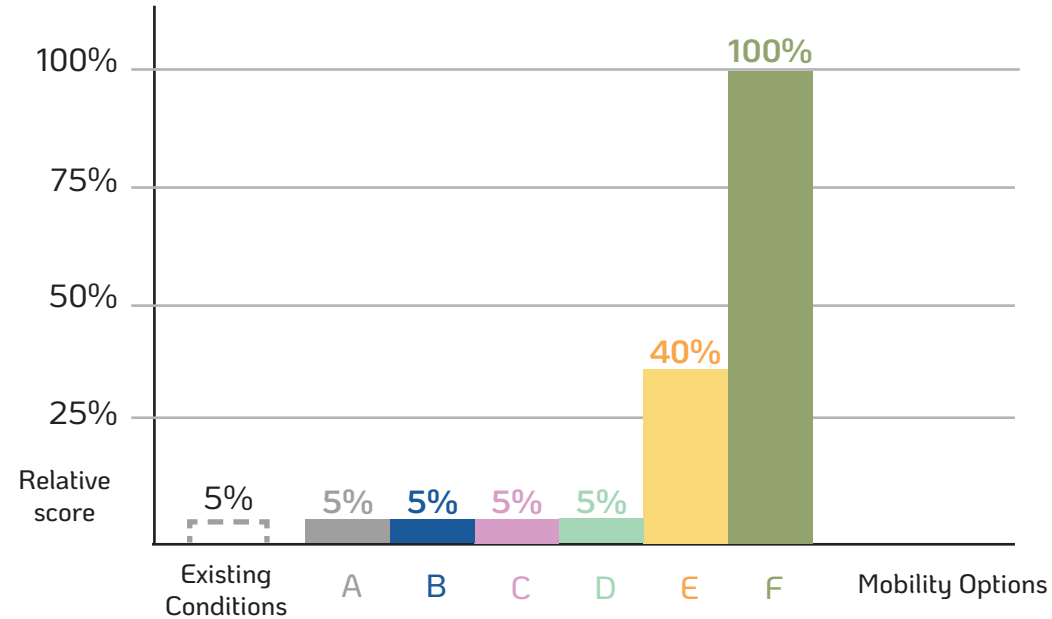
How will options support the movement of a large volumes in a short time frame (i.e., for events)?



5.2

Travel Route Options

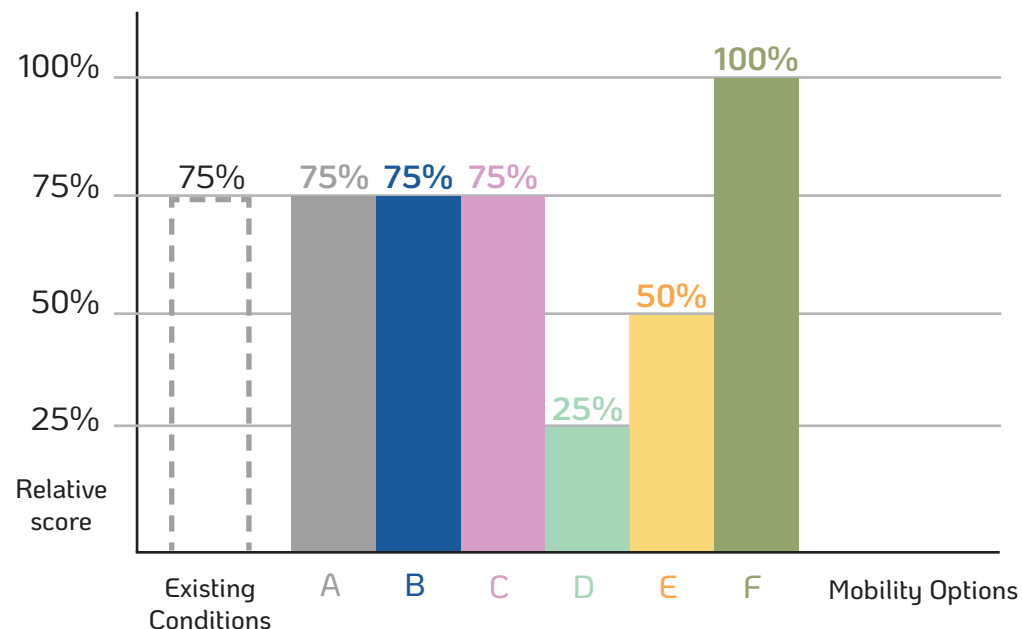
How will options provide more travel route options within the park to get to destinations?



5.3

Adaptable Infrastructure

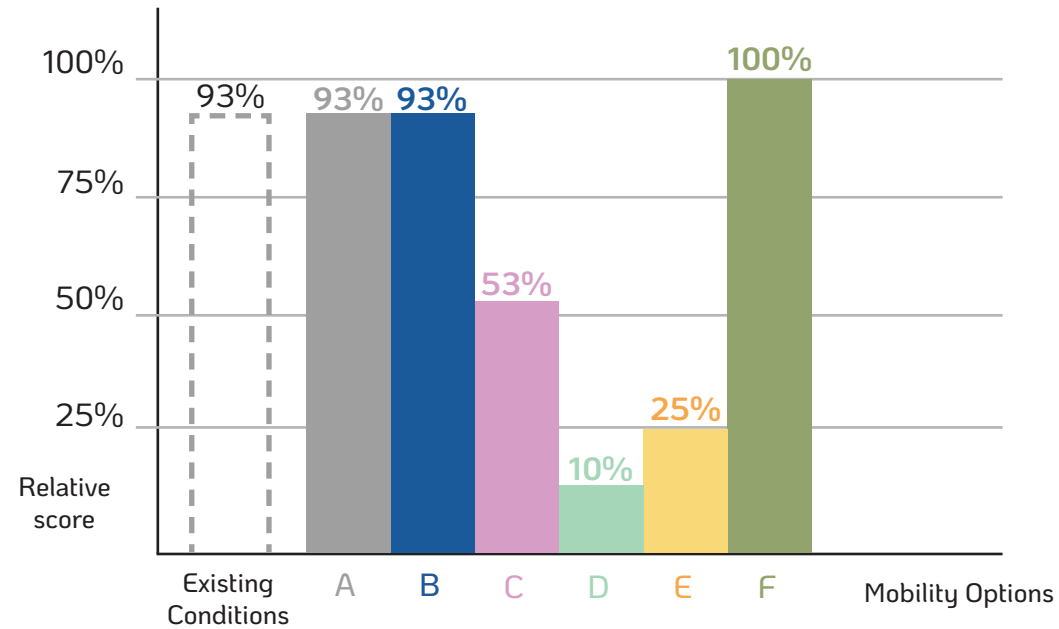
How well can each option's infrastructure be adapted for different uses/modes at different times?



5.4

Unobstructed Roads & Paths

How will options ensure roads and pathways are open and unobstructed?



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- Option F - Car Free Park Drive with Shuttle/ Transit & Bidirectional Active Transportation

Key Takeaways

Options F scores the highest on the Flexible and Resilient System Principle, with varying strengths related to maintaining an unobstructed Park Drive and flexible routing options.

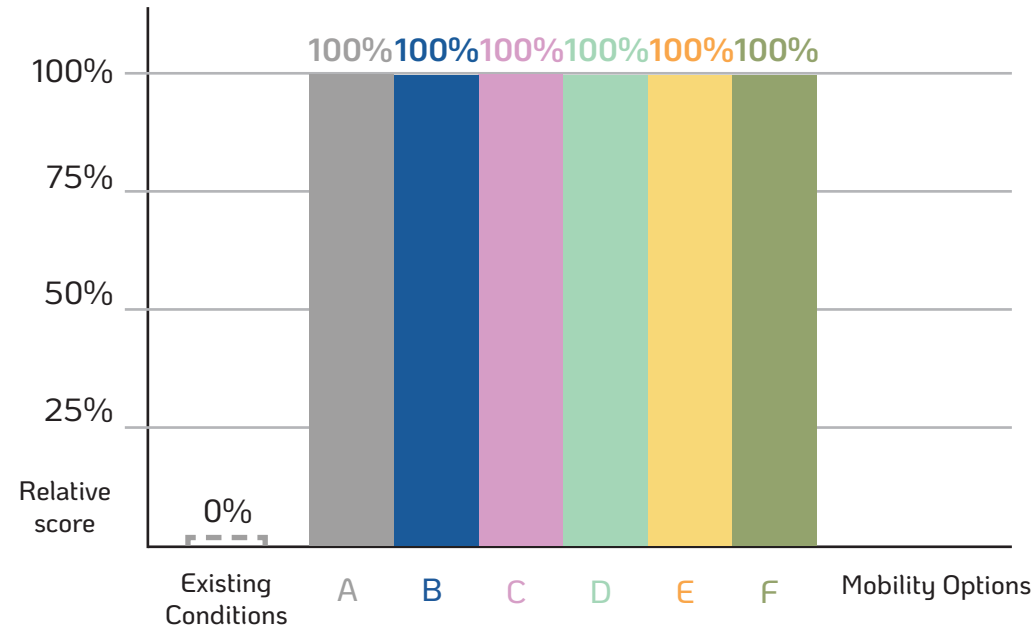
Relative score - how well each option scored against the best performing (100%) and worst performing (0%) out of all 21 options evaluated.

Connected Transportation Network



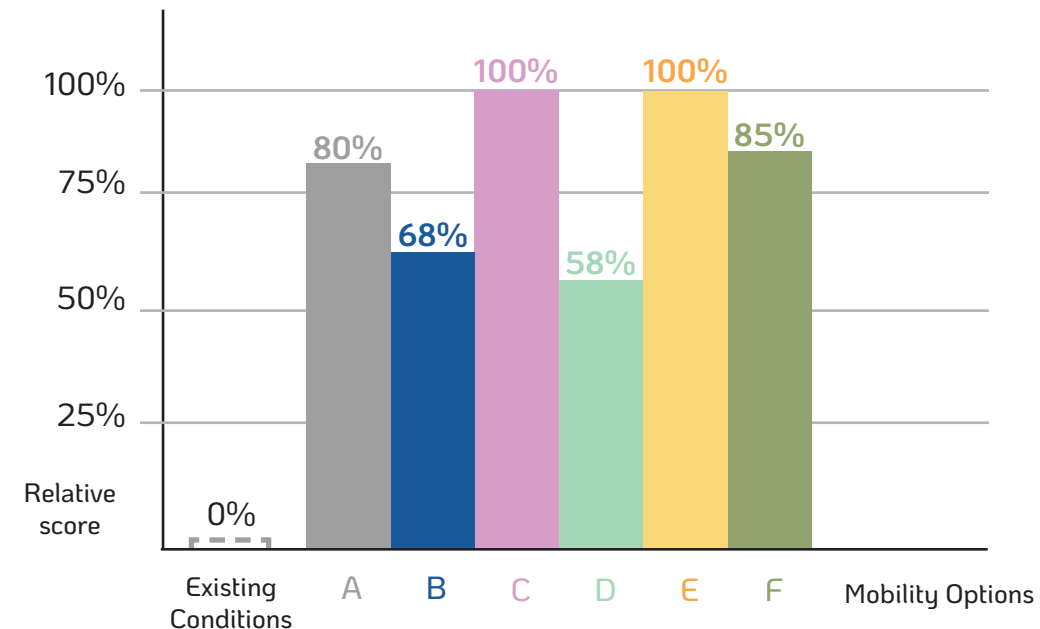
6.1 Multi-Modal Connections

How will options provide more opportunities to connect between different modes at hubs and entrances?



6.2 Public Transit Opportunities

How will options improve opportunities to travel into the park by public transit?

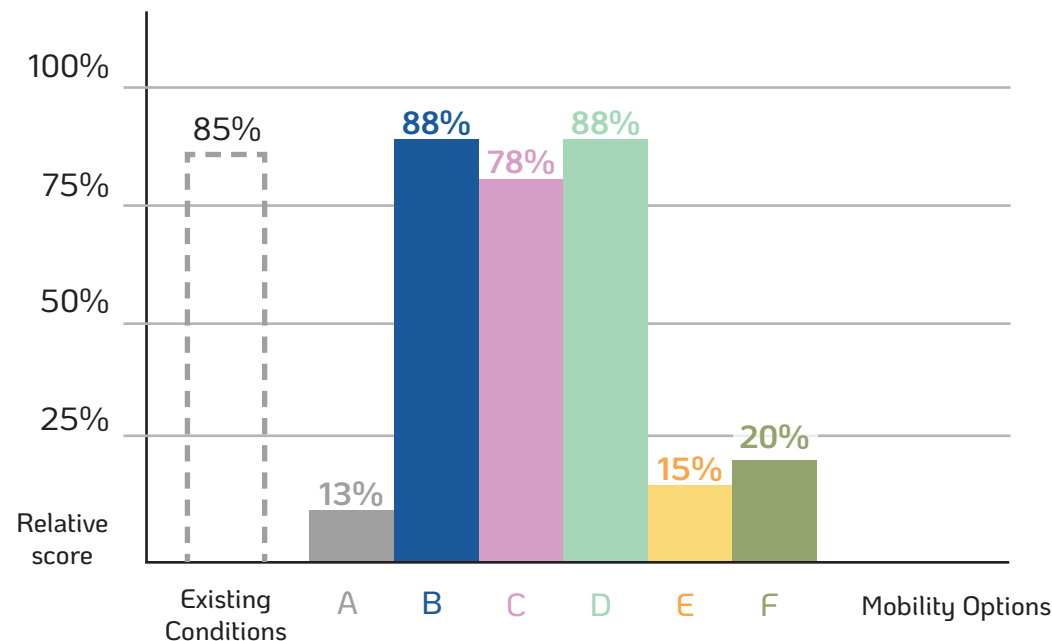


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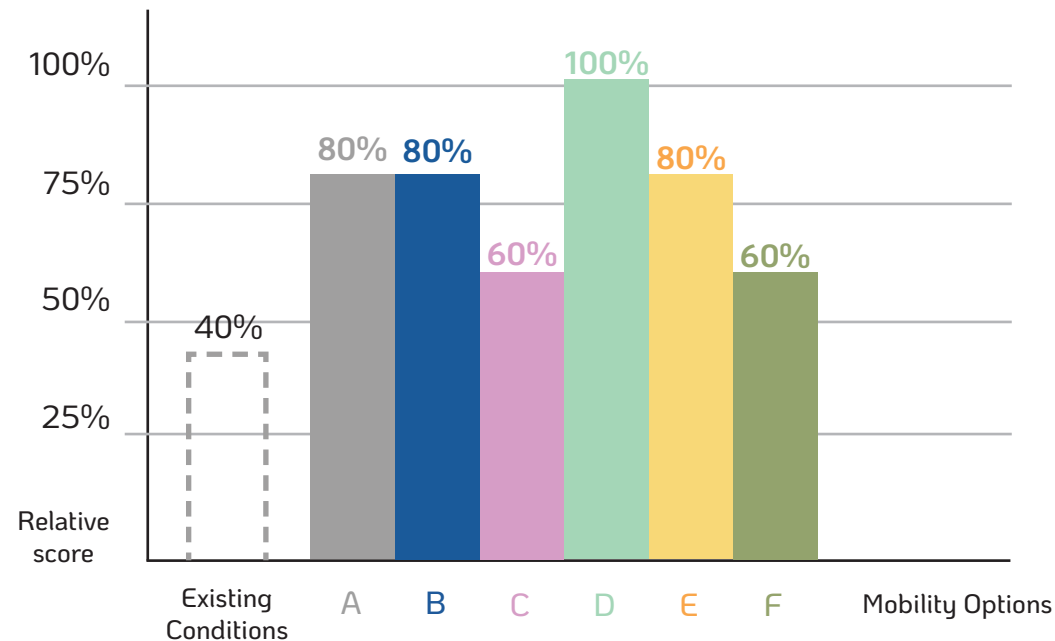
6.3 Vehicle Access to Destinations

How well will options provide access to destinations within the park so that people by car can visit them?



6.4 Mode Options

How does each option support a variety of transportation modes?



Key Takeaways

Option C has the most connected system because of its complete transit coverage of the park, good access to destinations, and the potential for trips using multiple modes.

Relative score - how well each option scored against the best performing (100%) and worst performing (0%) out of all 21 options evaluated.

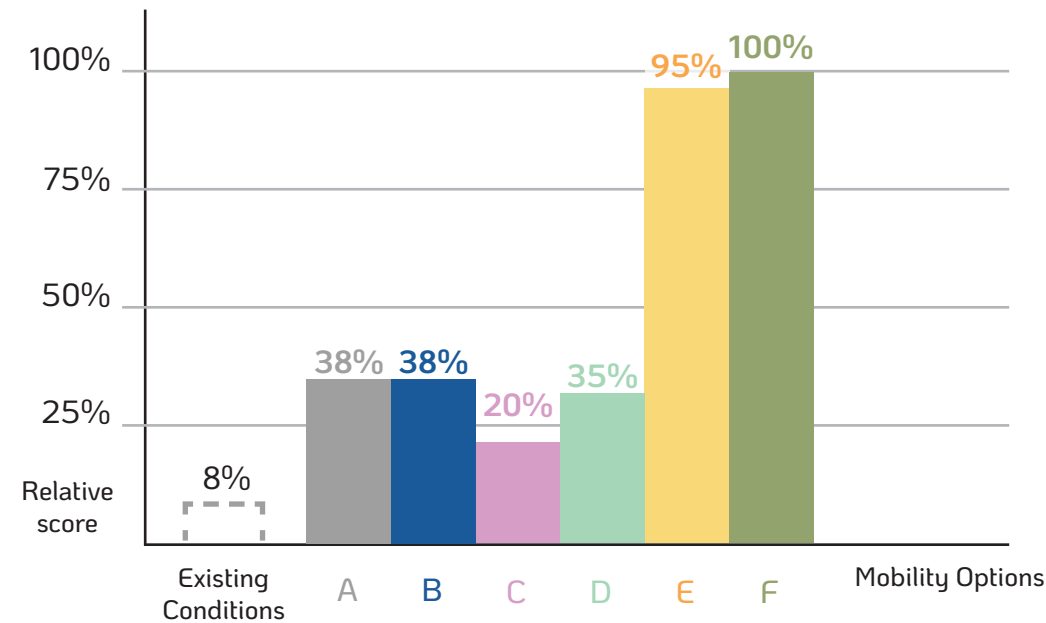
Enhanced Park Experience



7.1

Noise Pollution Reduction

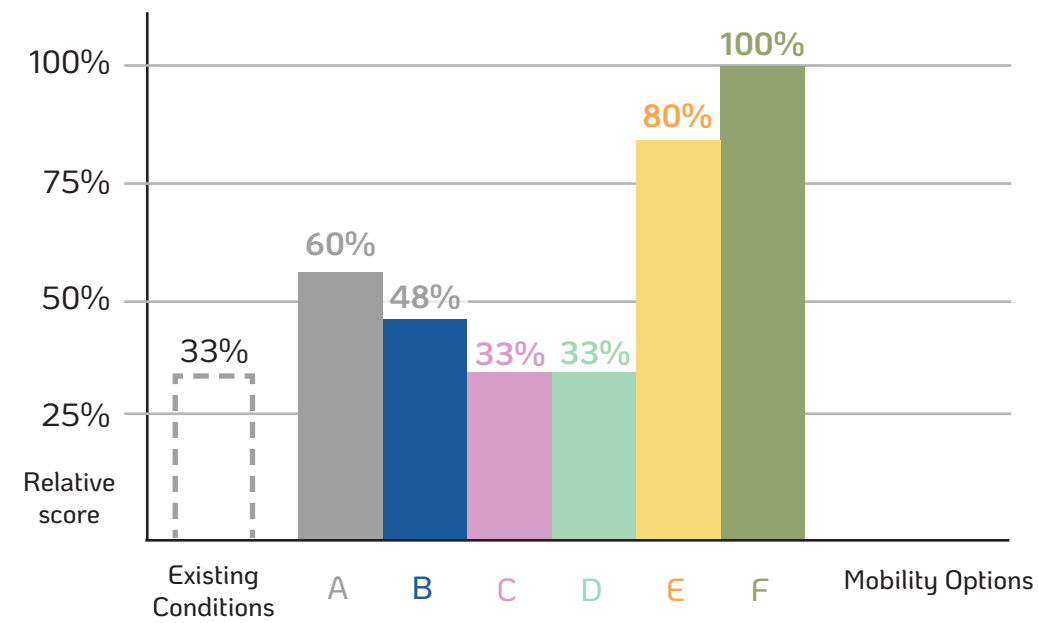
How will options reduce noise pollution and maintain a sense of serenity and peacefulness?



7.2

Air Pollution

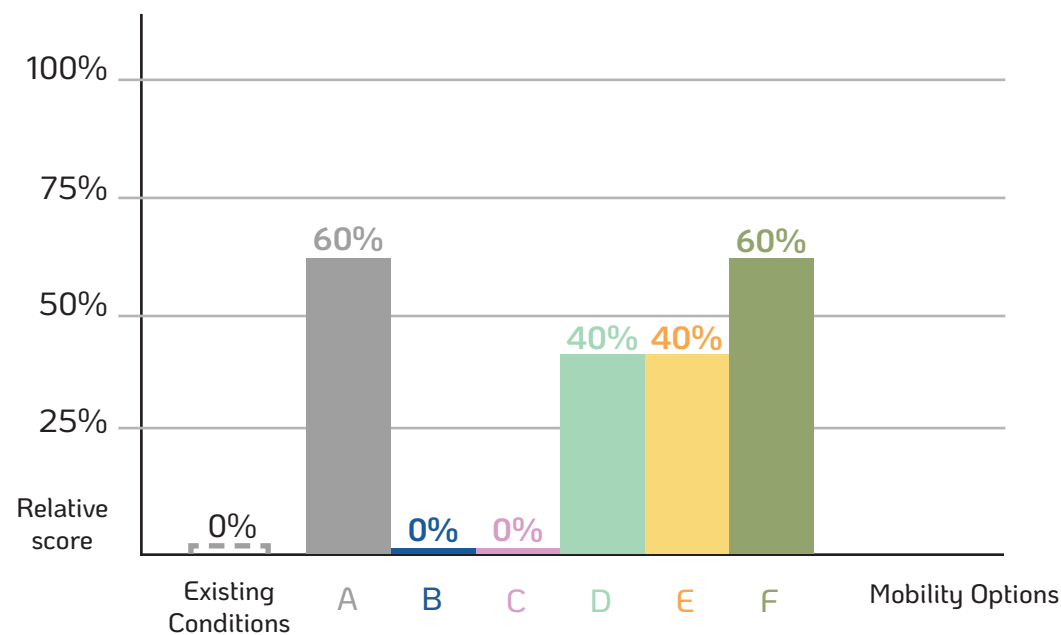
How will options reduce air pollution & idling to improve the health of visitors?



7.3

Space Dedicated for Active Travel

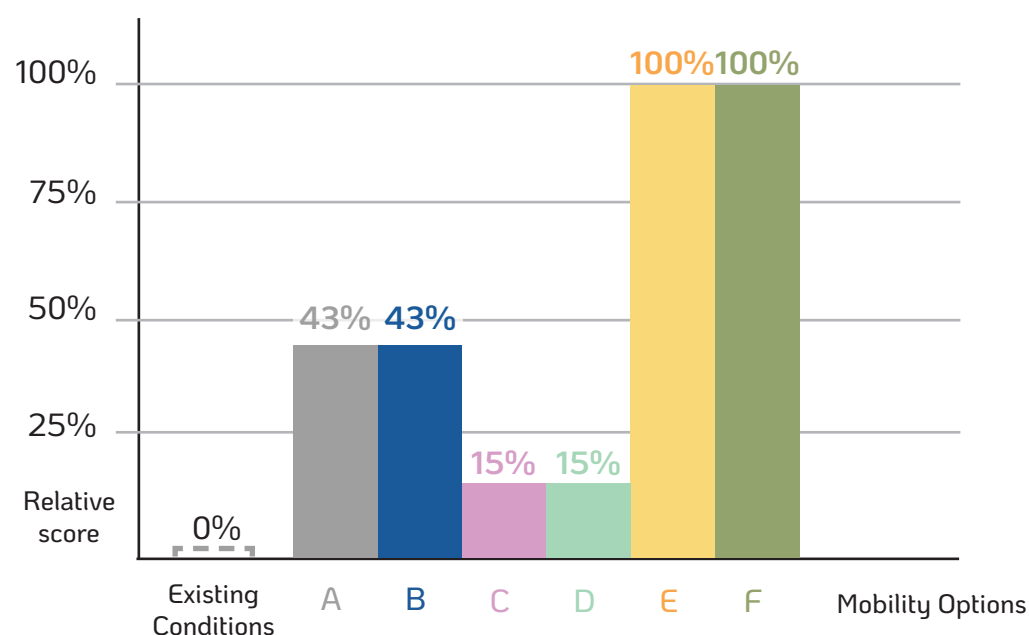
How will options increase the opportunity for recreational travel within the park?



7.4

Relaxed Experience

How will options reduce traffic and congestion in the park?



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- Option F - Car Free Park Drive with Shuttle/ Transit & Bidirectional Active Transportation

Key Takeaways

Options E and F best enhance the park experience by reducing the impacts of cars on the environment and recreational activities.

Relative score - how well each option scored against the best performing (100%) and worst performing (0%) out of all 21 options evaluated.

*Thank you for
learning about the
Stanley Park Mobility Study*

Evaluation Process

*For more project information, please visit:
<https://shapeyourcity.ca/stanley-park-mobility-study>*