



180Degrees
CONSULTING
— U B C —

technology for living

CLIENT PRESENTATION

DECEMBER 2022

THE TEAM



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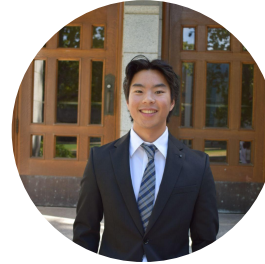
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WHY DO CLEAR **MISSION & VISION** MATTER?

Differences between employees regarding familiarity with mission/vision

	Familiarity with the mission/ vision	Mean	Std. Deviation
Job satisfaction (mission)	Familiar	3,0644	0,7561
	Not familiar	2,6718	0,8898
Job satisfaction (vision)	Familiar	3,0638	0,7554
	Not familiar	2,6941	0,8920
Organizational commitment (mission)	Familiar	3,7321	0,7485
	Not familiar	3,4928	0,9736
Organizational commitment (vision)	Familiar	3,7418	0,7521
	Not familiar	3,4591	0,9380

Mary Barra

“If we win the hearts and minds of employees, we're going to have better ... success.”

PRESENTATION AGENDA

- Project Objectives and Outline
- Recommendation #1: **Mission and Vision Statements**
- Recommendation #2: **Assistive Technology Research**
- Project Review
- Project Appendix

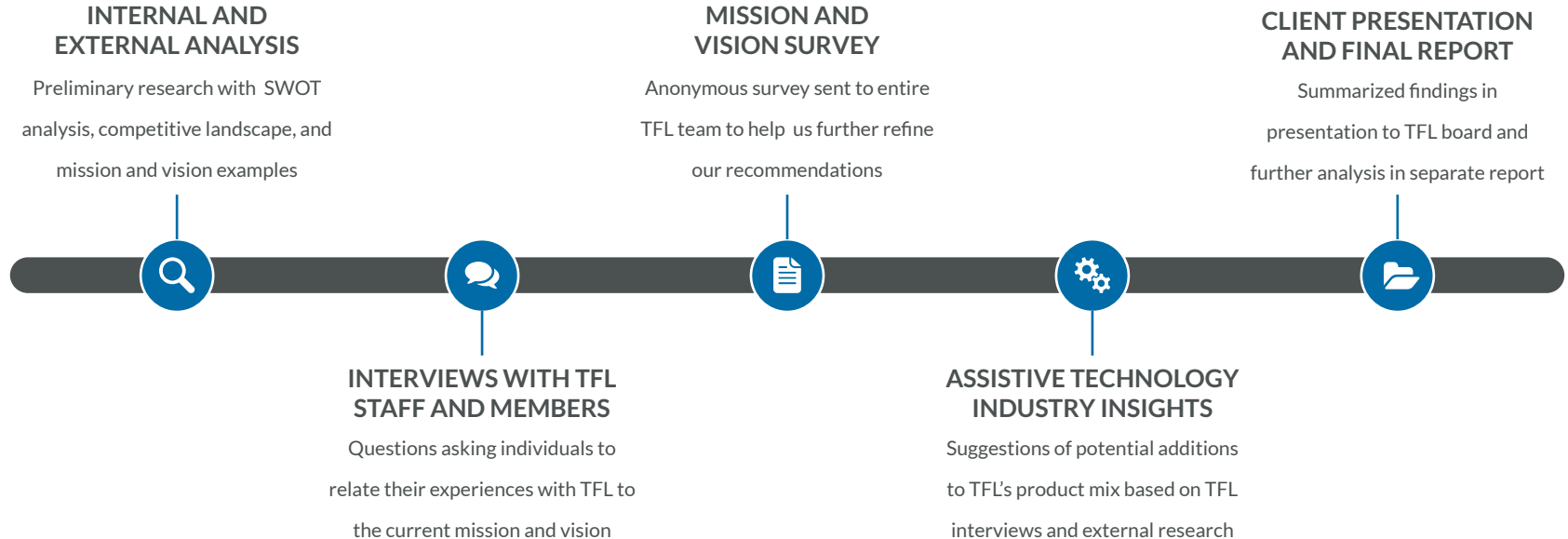
PROJECT OBJECTIVES

Refine TFL's mission and vision statements to reflect the true values of TFL in a concise manner.

Conduct research on the assistive technology industry to support TFL's strategic planning.

PROJECT OUTLINE

The steps that our team took in the process of delivering our two main recommendations to the client



RECOMMENDATION #1: **MISSION AND VISION STATEMENTS**

INTERVIEW DESIGN

Our team conducted video interviews with 10 TFL staff and members to better understand the context of our project

INTERVIEW QUESTIONS

1. What do you know about TFL's current mission/vision statements?
2. How do you feel about the current mission/vision statements?
3. In one sentence, how would you describe TFL?
4. What do you like the most about TFL?
5. How has TFL changed in recent years and where do you see it going in the next 5/10/20 years?
6. What words come into mind when you hear "TFL"?



Board Members

- Provides education to member caregivers
- Maintains, repairs, and installs equipment



Management

- Provides smart home controls for physically disabled people
- Assessment, installation, and repair of equipment



Staff

- Peers on Pages online writing group
- Education on IT for those unfamiliar with technology



Members

- New program that focuses on assisting physically disabled youth
- TIL is currently growing this program

WORDS ASSOCIATED WITH TFL



SURVEY DESIGN

A description of the survey process and goals

QUESTIONNAIRE DESIGN

- Generalized questions
- Targeted questions

KEYWORDS

- Repeating words, phrases, ideas collected, and synthesized

SURVEY LAYOUT

- Likert scale quantitative questions
- Qualitative feedback questions



INTERVIEWS

- Different people in the organization
- Different positions in the organization

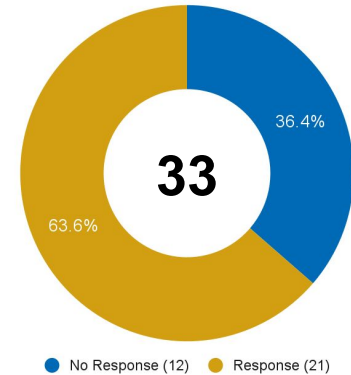
MISSION/VISION DRAFTS

- Based on keywords
- Brainstorm with director of TFL

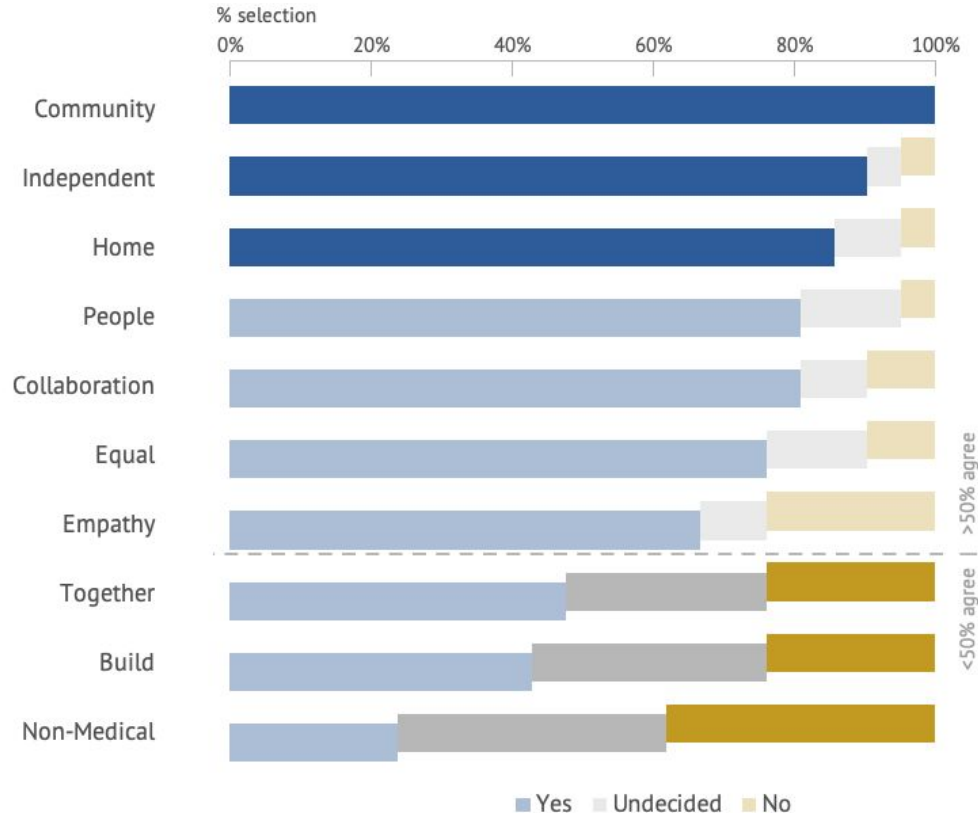
SURVEY OVERVIEW

- Survey Structure:
 - a. Keywords: Multiple choice (yes/no/undecided)
+ short answers
 - b. Core Values: 3/10 choice + comments
 - c. Vision Statements: 2/7 choice + comments
 - d. Mission Statements: 2/5 choice + comments
- Duration: 56 hours

- Survey Response Rate:



SURVEY RESULTS: KEYWORDS



TFL KEYWORKS SURVEY RESULTS:

1. 10 frequently mentioned keywords from interviews.
2. 7 keywords received >50% agreement in the survey.
3. >80% respondents favored **COMMUNITY**, **INDEPENDENT** and **HOME**.
4. **NON-MEDICAL**, **BUILD** and **TOGETHER** were unpopular based on the survey results, though many mentioned them in the interviews.
5. "No" and "Undecided" selections showed the similar pattern.

SURVEY RESULTS: CORE VALUES

		Numbers of Selections			
Core Value Candidates		1st choice	2nd choice	3rd choice	Total
<i>The right to live independently at home.</i>	1	11	3	1	15
<i>You have a right to self-determination.</i>	2	1	6	3	10
<i>All of our programs should be accessible, equitable and fair to everyone that it serves.</i>	3	2	2	6	10
<i>Empathy at all levels of the organization.</i>	4	2	3	2	7
<i>You have the capacity to learn and to develop the skills and knowledge to manage your own respiratory and assistive technology needs.</i>	5	1	3	2	6
<i>Social responsibility for those we serve.</i>	6	1	1	3	5
<i>You have the right to express your needs, to voice your concerns and articulate your goals in a climate of personal safety.</i>	7	0	1	2	3
<i>Human centered innovation.</i>	8	1	0	2	3
<i>Open collaboration for all.</i>	9	1	1	0	2
<i>People who use the Technology for Living Provincial Respiratory Outreach Program have a right to funding security in the provision of respiratory equipment and supplies.</i>	10	1	1	0	2

TFL CORE VALUE SURVEY RESULTS:

1. "The right to live independently at home"

This core value received >70% supports; more than 50% selected it as their first choice.

2. The first candidate also covered **INDEPENDENT** and **HOME**, which were popular in keywords survey.

3. Another popular keyword **COMMUNITY** was not captured in core value candidates, but can be considered.

SURVEY RESULTS: MISSION STATEMENTS

Survey respondents' most preferred mission statements among the options provided in the survey

01

To promote independence at home through assistive technology, respiratory therapy and peer support.

- Includes the purpose, and all the services TFL provides making it more specific
- Well represented, and consider adding members and for disability

81%

02

To maximize independence at home by providing innovative technology and respiratory therapy.

- It is less specific to the compared to the former
- All-inclusive statement encompassing physical disabilities and those with the need for technological support

43%

03

To support independence at home for people with physical disabilities.

- Defines the purpose and scope of TFL
- Prefer maximize independence as well as autonomy

33%

SURVEY RESULTS: VISION STATEMENTS

Survey respondents' most preferred vision statements among the options provided in the survey

01

To maximize independence and autonomy at home through the use of technology and respiratory therapy for people with physical disabilities.

- Encompasses a large part of the organization
- Captures what TFL does

71%

02

To support independent living at home through innovation, collaboration, and support.

- Like the words innovation and collaboration
- All encompassing statement

43%

03





We believe that everyone has equal opportunity to maximize their independence.

- Everyone should have equal access, regardless of circumstances

29%

RECOMMENDATION #2: **ASSISTIVE TECHNOLOGY RESEARCH**

COMPETITIVE LANDSCAPE

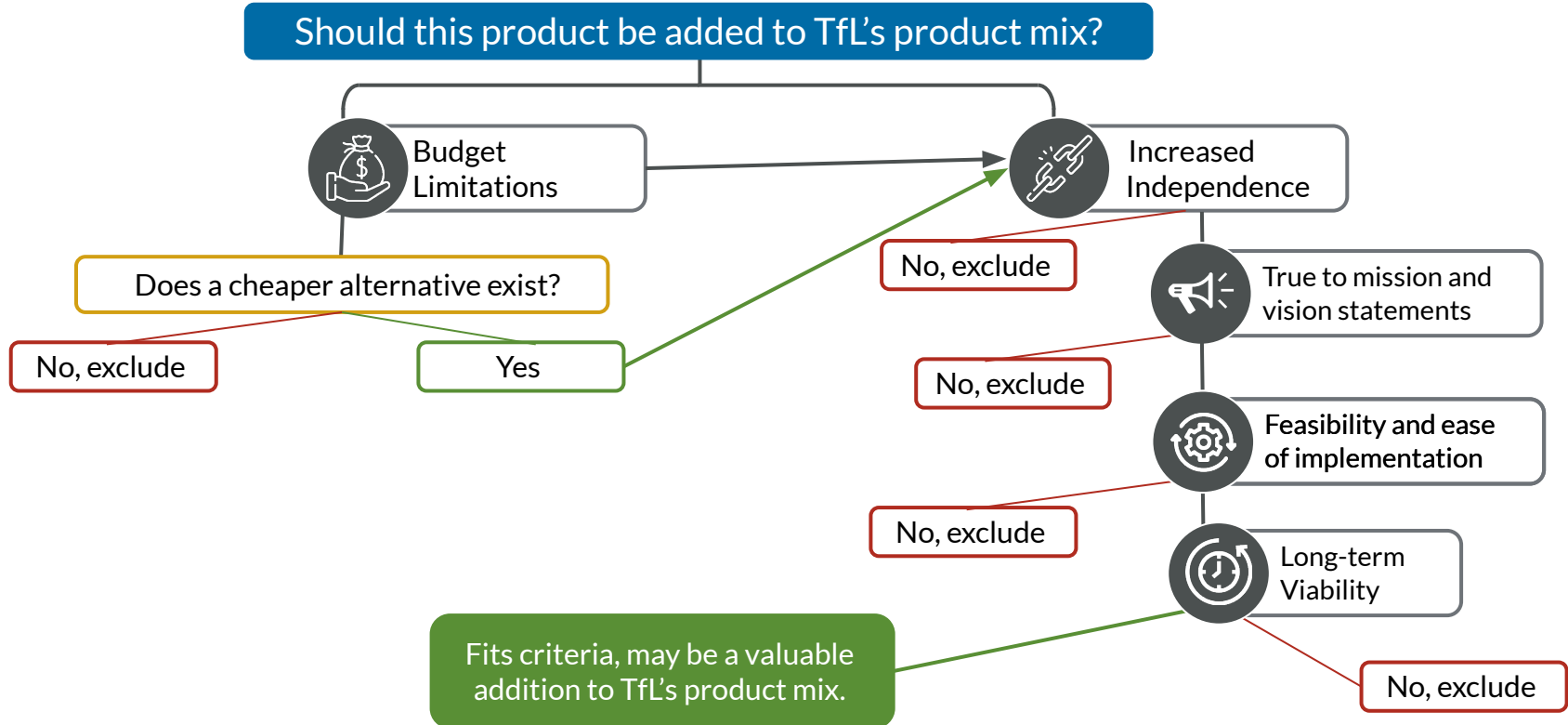
Organization	Profile	Differences to TFL	Similarities to TFL
 DISABILITY FOUNDATION	The Disability Foundation supports 6 different charitable societies, each with a different mission.	- Has a heavy emphasis on providing experiences to patrons rather than independent living through technology	- Focuses on those with disabilities, specifically physical hardships - TETRA Society is very similar, in which it provides assistive technology to those with disabilities
 ATBC Assistive Technology British Columbia	ATBC provides assistive technology resources to make learning environments suitable for people with disabilities.	- Emphasizes learning environmental support rather than personal residence; focuses solely on a younger demographic	- Government funding is a major source of financing for both companies
 Tetra Society of North America	Tetra designs and build assistive devices that are custom made for individuals.	- Constructs technology rather than purchase commercially made technology - Utilizes mainly volunteers to construct assistive technology	- Major focus on providing those with disabilities the independence to live normally through assistive technology
 CANADIAN ASSISTIVE TECHNOLOGY	“CAT” Provides assistive technology and service to customers with accessibility needs in order to be successful in the workplace or be independent at home	- For-profit company - Very broad range of products and does product repairs and training as well	- Commercially bought technology - Focused on providing independence and has a mission statement akin to TFL

Key Takeaways

1. **Competition** is there, but TFL is still niche
2. TFL has **unique programs** that set them apart

RESEARCH CRITERIA

We considered the following criteria in order of importance to ensure our recommendations were reasonable and helpful.



RESEARCH BACKGROUND

Background to 180DC's Research



Interview with Benson Au

- Pointed our research into the right direction
- Gave key insights into how TFL currently operates
- Explained the processes of assistive technology

180DC Team's Research

- Main sources were from scholarly and news articles
- Criteria fitting and feasible technology
- Explored all avenues of innovation

RESEARCH THEMES



POTENTIAL ADDITIONS TO PRODUCT MIX

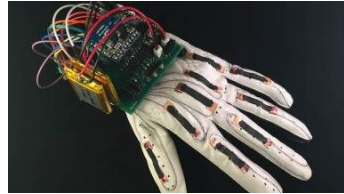
Recommendations for TfL to expand their product offerings based on our research

NEW PRODUCTS



Y-BRUSH

- A Y-shaped Brush capable of cleaning teeth in 10 seconds
- Assist those with motor issues and disabilities to maintain oral hygiene



SMART GLOVES

- Main function is to translate sign language into text that appears on smartphones or computers
- Can convert into hand gestures controlling actions, such as doors, tvs, lights, telephone



VIRTUAL REALITY

- Similar function to Smart Gloves except simpler motions incorporated with buttons and pads
- Convert a series of gestures and actions into actions

POTENTIAL ADDITIONS TO PRODUCT MIX

Recommendations for TfL to expand their product offerings based on our research

NEW PRODUCTS



NOMON + SKYLE EYE TRACKER

- NOMON: computer program allowing people with physical disabilities to type efficiently using their eyes
- Skyle Eye Tracker: used to control iPads and iPhones using eye movements alone



SKIN-LIKE SENSOR TECHNOLOGY

- \$10 skin-like sensor attached to face of people with disabilities
- Enables individuals to communicate phrases using small facial movements



LOW-COST OPTIONS

- Studies suggest encouraging DIY (do-it-yourself devices such as reachers, grab-bars, and wheelchair cushions
- These can be inspired by submissions to TFL's Simon Cox Student Design Program

PROJECT REVIEW



Final Report



Client Presentation

- Executive summary
- Methodology and process
- Mission and vision survey
- Assistive technology research
- Conclusion

THANK YOU!

PROJECT APPENDIX

Vision Statement Survey Results

Numbers of Selections; total 21 respondents

Vision Statement Candidates		1st choice	2nd choice	Total
1	To maximize <i>independence</i> and <i>autonomy</i> at home through the use of <i>technology</i> and respiratory therapy for people with physical disabilities.	11	4	15
2	To support independent living at home through innovation, collaboration, and support.	4	5	9
3	We believe that everyone has equal opportunity to maximize their independence.	4	2	6
4	Through collaboration, we develop and provide member centred technological solutions and supports to optimize independence.	0	5	5
5	To provide support for our community through innovation and technology that assists independent living.	1	3	4
6	To support independence and autonomy at home for all.	0	1	1
7	To build a community that supports our membership to live independently at home.	1	1	2

PROJECT APPENDIX

Mission Statement Survey Results

Numbers of Selections; total 21 respondents

Mission Statement Candidates		1st choice	2nd choice	Total
1	To promote <i>independence at home</i> through <i>assistive technology</i> , respiratory therapy and peer support.	14	3	17
2	To maximize independence at home by providing innovative technology and respiratory therapy.	2	7	9
3	To support independence at home for people with physical disabilities	3	4	7
4	To offer customized solutions supporting members independence at home	1	5	6
5	To support independence/autonomy at home.	1	2	3

PROJECT APPENDIX

Keywords Comments

Other Keywords Collected from Respondents

1	<i>Accessibility</i>	<i>Equitable</i>	<i>Participate</i>
2	<i>Allies</i>	<i>Equity</i>	<i>Provincial</i>
3	<i>Autonomy</i>	<i>Helpful</i>	<i>Relationships</i>
4	<i>Development</i>	<i>Inclusion</i>	<i>Support/ Supportive</i>
5	<i>Engagement</i>	<i>Innovation</i>	<i>Technology</i>

Keyword Comments

1	<i>Non Medical - I think this is true, but I like community more. Together - I liked collaboration more than together.</i>
2	<i>Empathy - I believe that we strive to demonstrate empathy, not sure if we achieve it though.</i>

PROJECT APPENDIX

Core Value Comments

Core Value Feedback						
Core Value Candidates	1st Choice	Comments on the 1st Choice	2nd Choice	Comments on the 2nd Choice	3rd Choice	Comments on the 3rd Choice
1 Social responsibility for those we serve	2	All of TFL's programs should be an on-going collaboration between its employees and its members, in order to provide the best possible service.	2	I like empathy, it's more of a keyword in this statement - it could be flushed out more into a sentence but empathy from our staff is important.	1	I found this difficult to rate as there were words in one that could be used in another and words I would not use.
2 Open collaboration for all	3	Living at home, living independently at home - these are both very important. This one jumps out as an immediate number one for me.	4	Empathy should be the foundation of all community work.	3	Everyone should be able to live independently at their home without anyone help and technology is the way how it could be achieved.
3 The right to live independently at home	3	This feels like the main tenet of our organization	4	important for this to be fostered	4	Without empathy at all levels of the organization, we cannot support individuals living at home in their communities and being self determining in their care
4 Empathy at all levels of the organization	3	The value that hits closest to home for me is the idea of TFL assisting in fostering independence both at home and in the community.	4	This is what the organization value towards its member	5	This is what we should focus on
5 Human centered innovation	3	There is currently no provincial mandated right for people with disabilities to live independently at home. This value engages TFL in the struggle to make this a right.	6	This supports #3	6	Members need to be able to choose what works best for them. They cannot have someone telling them that they know better than them. Members typically know what works best for them and their care.
6 You have a right to self-determination	3	This is a central pillar of what TFL is...and it is a commitment that is unique to this organization	6	and 10 goes with this one in my mind; you have the right and the ability to learn	6	#6, #3 and also to some extent #10 are pretty similar, and important.
7 All of our programs should be accessible, equitable and fair to everyone that it serves	3	This covers most of the other stated core values from the perspective of the members	6	This value is crucial to leveling the playing field for our members and counterbalancing the paternalism of the medical model	7	Similar to the idea of empathy
8 People who use the Technology for Living Provincial Respiratory Outreach Program have a right to funding security in the provision of respiratory equipment and supplies	3	This clarifies that TIL is far distant from a medical model. Emphasis is on living at home with appropriate support which is identified by the member and members of their select team	6	We are member driven, again this makes us unique as an organization and that much more valuable to the groups we support	7	It a pie and everyone gets slice. When it is imbalanced, the structure falls apart.
9 You have the right to express your needs, to voice your concerns and articulate your goals in a climate of personal safety	5	forward thinking, simple, clear	6	Actualization	7	All of our programs should be available to those whose disability needs are within the realm of possibility/provision of TIL. This is a provincial program. Geography, finances and access to major centres should not prohibit the ability to utilize resources of TIL. With enough time and patience, there is almost always a way to make it work.
10 You have the capacity to learn and to develop the skills and knowledge to manage your own respiratory and assistive technology needs	6	We will support you in your goals. Remove any limitation caused by your residence or equipment.	7	I agree that TFL's services should be easily accessible for those that it serves. Its services need to be easily found by members, OTs, RTs, Physician, etc. in order for TFL to grow and for its members to get the services that they require.	7	Respect, equity
	7	All of our programs ARE (not should be) accessible... OR something like "we strive to make our programs accessible..."	8	We live in a rich country with abundant natural resources. An individual should not be prevented from making a decision to have at home when it is safe to do so because of inadequate financial resource	9	This aligns with TFL's history and current goals
	10	Not accurate. Not every does or is capable willing	9	in a climate of Autonomy (not necessarily safety as I feel that is a given.)	9	could be worded better, but it captures the spirit of "members owning their independence in a safe and supportive environment"
			10	This is a broad term and it's unclear what this actually capture or supports	10	Focuses on our members' abilities rather than their disabilities
			10	Directing your own care or be involved in some capacity.	10	Not a fan of this statement as it reads as eliminating the collaboration with Drs/RTs/biomed which play a very key role in respiratory and tech needs and for our members to use these devices safely.

PROJECT APPENDIX

Vision and Mission Statement Comments

Vision Statement Feedback

Vision Statement Candidates	1st Choice	Comments on the 1st Choice	2nd Choice	Comments on the 2nd Choice
1 To build a community that supports our membership to live independently at home.	1	For sure, number 1 is consistent with our vision of supporting people to live independently in the community with appropriate, self identified supports	2	It may be a bit wordy, but ultimately it get the point across.
2 To maximize independence and autonomy at home through the use of technology and respiratory therapy for people with physical disabilities.	2	I like that it has respiratory therapy (PROP) and technology (TIL) - I think this is what we all want.	2	TFL having PROP represented in the vision is nice
3 To support independence and autonomy at home for all.	2	This is the most specific to TFL	2	Maximize is good
4 To support independent living at home through innovation, collaboration, and support.	2	Disability should not be a barrier to enjoy life.	3	visionary, big goal--maybe a bit too simple?
5 To provide support for our community through innovation and technology that assists independent living.	2	That's what we do and it's said in a simple way. Also the statement is achievable and realistic	4	Less specific but also good
6 We believe that everyone has equal opportunity to maximize their independence.	2	It describes who and what we provide...technology and therapy	4	II suggest modifying this to "To maximize independence living and autonomy at homes through innovation, collaboration, and support.
7 Through collaboration, we develop and provide member centred technological solutions and supports to optimize independence.	2	like the phrase maximize independence and autonomy	4	This statement is more all-inclusive and can include all people with disabilities, not just those who are respirator dependent. I like the words innovation and collaboration
	4	It is short and to the point.	5	3. To support independence and autonomy at home for all.- Instead of "for all" I might say something like "To support independence and autonomy for the community we serve"
	4	It includes independent living at home, which is very important to distinguish, but also includes support, which is lacking a little in the other options...but is the biggest part of what we provide.	5	. I also liked #5 - I had a hard time choosing between them. Maybe 5 is better stated than 3 now I review it. (I changed my pick from #3 to 5!)
	4	captures what we do	5	Similar to first choice example
	4	Tossup with 2	6	Everyone should have equal rights.
	5	To provide support for our community through innovation and technology that assists independent living - this encompasses without being exclusive or too detailed. I would rather see: To provide support for our MEMBERS through innovation and technology that assists in independent living and promotes autonomy.	7	I don't think that any of the other options are visions, they are missions as is this statement
	6	I think home and community should both be represented in the vision and this achieves that ... by being vague I guess	7	Through collaboration, we develop and provide member centred technological solutions and supports to optimize independence. This is all encompassing as well...but would add autonomy in there as well.
	6	It is a succinct and inclusive vision statement		

Mission Statement Feedback

Mission Statement Candidates	1st Choice	Comments on the 1st Choice	2nd Choice	Comments on the 2nd Choice
1 To support independence/autonomy at home.	1	Independence and autonomy at home. This statement emphasizes distance from the medical model and potential placement in a facility.	1	Cleanest representation of the core idea
2 To offer customized solutions supporting members independence at home	2	should be members'. captures everything.	2	I especially like "customized solutions". We do provide customized solutions, our solutions are as varied as abilities of our members. Sometimes people have degeneration of their muscles, and we have to provide different solutions as they disease or disability progresses.
3 To support independence at home for people with physical disabilities	3	This defines our services and scope.	2	To offer customized solutions supporting members independence at home (instead of 'supporting' I would use 'fostering'. typo: members' (need apostrophe, I think)
4 To maximize independence at home by providing innovative technology and respiratory therapy.	4	Simple, archivable	2	Condensed version
5 To promote independence at home through assistive technology, respiratory therapy and peer support.	4	Focuses on what we do	3	The closest to first choice
	5	I think it covers all the bases of what TFL does.	3	I suggest to change to "To support independence/autonomy at home for people with physical disabilities"
	5	I think this includes our purpose and how we fulfill the purpose, it includes PROP, TIL and Peer Support .	4	Pretty much the same as #5 but missing the peer support.
	5	Most specific to TFL	4	Also good, less specific.
	5	All 3 assistive technology, respiratory therapy and peer support represented	4	This is an all-inclusive statement that encompasses physical disabilities and those with the need for inspiratory technology and support
	5	I would add for people with disabilities to the end of %	5	We should be able to use technology to help people who needs it to achieve they independence.
	5	no additions/comments	5	I would prefer maximize independence. I would add peer support to #4 to improve it as a mission
	5	Seems to fit	5	more granular

TECHNOLOGY FOR LIVING (TFL)

Independence at Home

Founded in 2006, Technology For Living (TFL) is a Vancouver non-profit organization that **supports people with disabilities and ventilation needs to live independently at home.**

They offer **specialized equipment, training, education, and support** for its members to maximize their welfare at home.



Provincial Respiratory Outreach Program (PROP)

- Provides education to member caregivers
- Maintains, repairs, and installs equipment



Technology For Independent Living (TIL)

- Provides smart home controls for physically disabled people
- Assessment, installation, and repair of equipment



Peer Program

- Peers on Pages online writing group
- Education on IT for those unfamiliar with technology



Youth Assistive Technology

- New program that focuses on assisting physically disabled youth
- TIL is currently growing this program

PROJECT REFLECTION

STAKEHOLDERS

180DC Exec. Team

180DC Proj. Team

Mentors

Proj. Directors

Client

Board Director
Project Managers
Specialists
Staffs
Members

CLIENT INVOLVEMENT

- ☒ Don't make assumptions
- ☒ Listen to the client
- ☒ Don't skip steps
- ☒ Get key stakeholders on board
- ☒ Be the helper, not the hero
- ☒ Methods?

TFL Current Offerings

Currently Being used

Voice Command

- Voice commands using an amazon echo or google home have become popular
- Integrated within peoples homes, operating machines like coffee makers, doors, tv, etc.



Y-Brush

- A Y-shaped Brush capable of cleaning teeth in 10 seconds
- Assist those with motor issues and disabilities to maintain oral hygiene



Smart Gloves

- Main function is to translate sign language into text that appears on smartphones or computers
- Can convert into hand gestures controlling actions, such as doors, tvs, lights, telephone

ENVIRONMENTAL CONTROLS

Research into the assistive technology industry

TFL CURRENT OFFERINGS



TFL offers a range of environmental controls

- Environmental controls allow members to control their environment
 - Lighting, temperature, doors etc.
- Little room for advancement within budget.

RESEARCH THEMES



From interviews and research, we found

- Gaming industry inspiring AT
- Current AT advancements focus on communication
- Sensor technology is prevalent

POTENTIAL ADDITIONS TO PRODUCT MIX



NOMON + SKYLE EYE TRACKER

NOMON is a computer program that allows people with physical disabilities type efficiently using their eyes. Related, Skyle eye tracker can be used to control the ipad and iphones using eye movements alone.



SKIN-LIKE SENSOR TECHNOLOGY

A \$10 skin like sensor attached to the face of people with disabilities enabling them to communicate phrases using small facial movements.

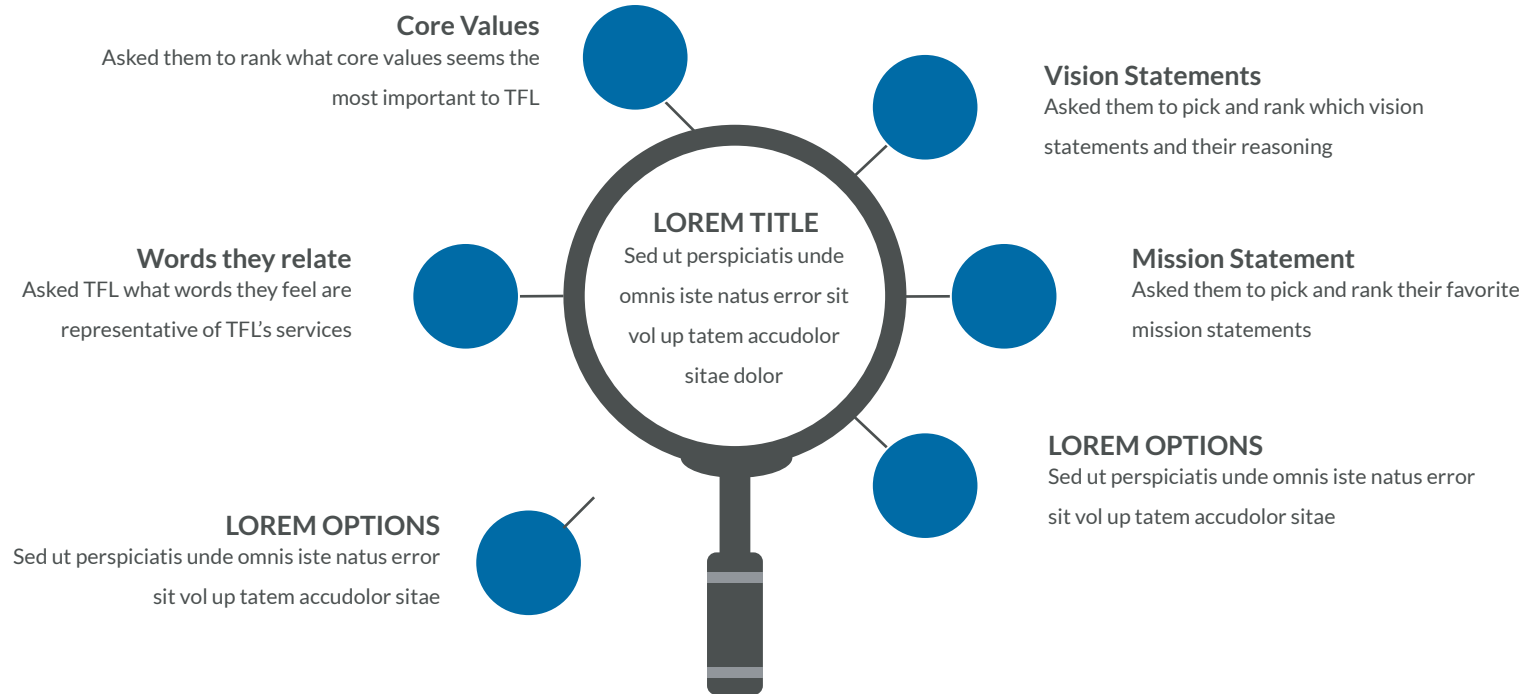


LOW-COST OPTIONS

Studies suggest encouraging DIY (do-it-yourself) devices such as reachers, grab-bars, and wheelchair cushions. DIY tools can also be inspired by submissions to TFL's Simon Cox Student Design Program.

SURVEY RESULTS??

Examples of mission and vision statements from other organizations for reference



TFL'S CURRENT OFFERINGS

TFL's most prevalent assistive technology products at the present

