



Report

CITY AND COUNTY OF SAN FRANCISCO EMERGING TECHNOLOGY OPEN WORKING GROUP

**SESSION #1, JULY 9, 2018, 2P-4P
& SESSION #2, JULY 23, 2018, 5P-7P**

PRODUCED BY

OnStrategy

July 25, 2018



EXECUTIVE SUMMARY

POTENTIAL BENEFITS OF EMERGING TECHNOLOGY

The input from the first two Emerging Technology Open Working Group sessions and survey responses have been synthesized in to 12 themes for the **potential benefits of emerging technology**:

- Greater accessibility (to services) / equity¹
- Efficiencies
- Increase safety & security
- Economic vitality & more jobs
- More / better community connections & engagement
- Environmental sustainability & being prepared for environmental change & disasters
- Quality of life
- Innovation
- Data for good
- Good use of public assets
- Transparency
- Increased mobility / decreased congestion

CORE PRINCIPLES OR CONSIDERATIONS

Of the 18 principles / considerations presented to session participants, the 5 below were most commonly identified as the most critical to consider when creating policies and regulations for emerging technology:

- Accessibility
- Equity
- Public Value
- Nimble, Responsive Regulation
- Net Common Good

POTENTIAL ISSUES OR HURDLES TO ACHIEVING DESIRED OUTCOMES

After identifying the ideal outcome if San Francisco gets the balance right of key principles and considerations and emerging technology, session attendees were asked to identify the potential issues or hurdles to achieving the desired outcome. The small groups' brainstorms are synthesized below into 14 themes or problem areas:

- Lack of Awareness, Understanding, Communication
- Resistance to Technology / Change
- Exclusionary

¹ "Equity" and "Accessibility" are closely tied or to some, may be inter-change-able terms; i.e., if regulations or technology is equitable, it will mean accessibility for all. Important to note is that "accessibility" was not just a term meaning that those with limited (physical) abilities have access, but that everyone has access to equal opportunities, benefits, services, etc.—disabled or otherwise.



- Bureaucracy / Government Getting In The Way
- Poor Regulations
- Lack of (Government) Resources
- Inadequate Protections for Safety, Security, Privacy
- Damage / Harm
- Financial (Private) Gain at Expense of Public
- Speed of Technology
- Strain on City's Infrastructure
- Inadequate Private-Public-Partnerships
- Unclear Direction or End-Game
- Politics

VISION FOR EMERGING TECHNOLOGY

The draft vision:

A City that puts people first and embraces technology to enhance quality of life and our public spaces.

The City and County of San Francisco may want to consider revising the vision to be more specific, by incorporating some of the key principles--particularly equity and accessibility. For example:

A City that prioritizes equity and accessibility for all and embraces technology to enhance quality of life and our public spaces.



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EMERGING TECHNOLOGY WORKING GROUP OVERVIEW

Supervisor Norman Yee and the Board of Supervisors passed Resolution 102-18 urging the City Administrator Naomi Kelly to create a working group to inform future legislation on emerging technologies. Over the next six months, San Francisco City Administrator Naomi Kelly will convene an Open Working Group to inform the City’s engagement and governance of emerging technologies. With input from the public, the City seeks community perspective to shape future legislation

VISION

A City that uses technology to put people first and enhance our public spaces.

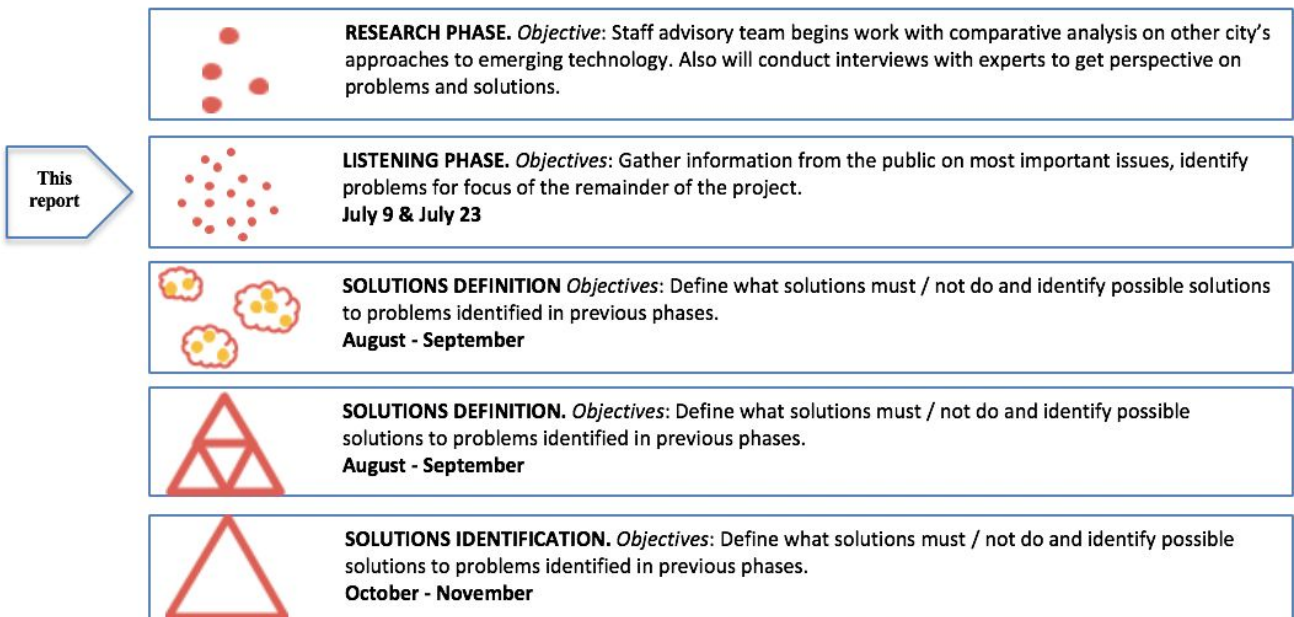
PRINCIPLES

- Safety and Security
- Equity
- Efficient and Fair Process
- Risk Management
- Safety, needs, and convenience of humans
- Accessibility
- Public Value
- Ethics
- Net Common Good
- Needs of the most vulnerable members
- Public Safety
- Protect private information
- Costs on the use of public infrastructure
- Regulation should be nimble and responsive
- Impact on congestion
- Support rather than reduce the labor force
- Include labeling
- Public-Private Partnerships

PROJECT OBJECTIVES

- **Engage the community** and technology experts in the policy making process
- Develop **recommendations on a regulatory and permitting process** that addresses use cases on land, in the air and water, in building and underground
- Develop a nimble and responsive **governance framework** that City Departments can use with emerging technology companies to partner with the city

PROJECT JOURNEY & PROCESS





DETAILED SESSIONS NOTES

SESSIONS AGENDA

- I. Welcome
- II. Introductions (see attendee list in Appendix)
- III. Overview of Working Group
- IV. Participant Input Facilitated Exercises
- V. Read-Out Participant Results of Exercises
- VI. Next Steps, Upcoming Meetings

EXPECTATIONS AND OUTCOMES

Session participants were invited to respond to the question, “In one word, what technology topic(s) do you want this group to discuss?” via an online / text poll. Eighty-one total response were recorded at the July 9, 2018 session. Responses were reflected in a word cloud:

Word Cloud



Word Count

Words entered by at least 2 participants.

July 9		July 23	
Word	Frequency	Word	Frequency
Equity	7	Equity	5
Privacy	5	Security	3
Innovation	4	Innovation	2
Transportation	3	Safety	3
Accessibility	3	Accessibility	4
Mobility	3	Opportunity	2



Security	3	Inclusion	2
Workers	3		
Housing	2		
Infosec	2		
Oversight	2		
Precaution	2		
Transparency	2		

DEFINITION OF EMERGING TECHNOLOGY

Excerpts From Pre-Session Survey

Innovative	<i>“innovative, hardware or software based service...”, “untested or new”, “infancy stage”, “progressive developments within field”, “nascent”</i>
Experimental	<i>“...an adolescent tool”, “potential to warrant cultivation”, “still in development, testing or piloting”, “still in development, testing or piloting.”</i>
Impact	<i>“New technologies that are changing the way society works and is structured,” “impactful implications”, “impacts we are only starting to understand”</i>
Change	<i>“Capable of changing the status quo”, “changes the way we conduct business, personal and community lives”</i>

*Note: Full records of the pre-meeting survey and post-meeting survey are available in the appendix.

Examples of emerging technology:

- AI
- Sensors
- Shared mobility
- Big data
- Robots
- Autonomous vehicles
- Machine learning
- Amazon acquiring Whole Foods
- Accessible pedestrian signals
- Electric skateboards
- Mobile phones
- Fast internet
- Software
- CRISPR
- 3D Printing
- Dahlia



BENEFITS OF EMERGING TECHNOLOGY

Responses to the Pre-Session Survey

Virtually all respondents believe technology can have a positive impact on their community. On a scale of 1 to 7, the average response was a 4.9.

Responses to the question, “Technology can have a positive impact on the community.”

Scale	1	2	3	4	5	6	7
Number of respondents (80 total)	0	0	1	3	11	21	44

*Note: Full records of the pre-meeting survey and post-meeting survey are available in the appendix.

Responses to the question, “What opportunities or benefits do you see with emerging technologies?”

- Efficiency
- Partnerships
- Reduce congestion/better sustainability
- Improve health
- Services to homeless
- Streamline services
- Better security
- Equity
- No benefits

Most respondents shared stories about how technology *improved* their lives:

- Positive: Increased efficiency, stay in better touch with friends/family, access city services via 311, more information available, new educational opportunities, easier to travel, transportation easier with GPS and ride share
- Negative: Work devalued as replaced by computer, congestion and disobeying laws from ride shares, airbnb negatively impacting housing market

In-Session Responses

In small groups of 5 to 10 people, participants were asked to brainstorm the benefits of emerging technology. The results of these brainstorms:

JULY 9 OPEN WORKING GROUP BENEFITS OF TECHNOLOGY				
Group 1	Group 2	Group 3	Group 4	Group 5
<ul style="list-style-type: none"> • Equity – Services to low served areas • Accessibility – more people can use service <ul style="list-style-type: none"> o Elderly disabled o New revenue • Efficiencies <ul style="list-style-type: none"> o Better pricing • Connect to larger consumer base 	<ul style="list-style-type: none"> • Inclusion • Lower cost/better services (maybe no services) • Optimize the benefits in services • Convenience • Reduce suffering • Access • Communication 	<ul style="list-style-type: none"> • Respond to citizen demands more quickly • Improve quality of life and access • Innovation • Job creation • Convenience • Simplify • More knowledge and insight to SF 	<ul style="list-style-type: none"> • Better coordinated services • Better access to communications and qol • Enhanced safety • Better connections • More time/lazy • Inclusivity • Equity 	<ul style="list-style-type: none"> • Increased mobility • Flexible equity • Decreased cost of living • Advancing city priorities • Data informed decisions and policy making • Decreased environmental impact



<ul style="list-style-type: none"> • Safety – navigate complex environment <ul style="list-style-type: none"> ◦ Less fatalities • New occupations • Environment • Sustainability • Agility <ul style="list-style-type: none"> ◦ “disrupt” all more respond, decisions and actions • Planning better • Access to critical services • Interconnectivity <ul style="list-style-type: none"> ◦ New communication channels • New data/information <ul style="list-style-type: none"> ◦ Info at scale ◦ New types of data collected ◦ Merchants make better buying decisions • Affordability – can provide better option • Displacement 	<ul style="list-style-type: none"> • Connectedness and community • Flexibility in design • Identity 	<ul style="list-style-type: none"> • Better living through big data • Improved disability access • Time management • Business models/city services • Improving methods and techniques 	<ul style="list-style-type: none"> • Faster response to need • Increased opportunity for local biz • Comm among sectors • Improved mobility • Better oversight (vendors) • Transparency • Increased efficiency • Reduced disparity • Increased opportunity for education • Reduced costs for services <ul style="list-style-type: none"> ◦ Greater impact ◦ Greater collective benefit ◦ Free other resources • Efficient uses of unused cap (i.e. housing, cars) • Re-envisioning public spaces 	<ul style="list-style-type: none"> • Public health • Efficiency • Safety • Better use of public assets • Increase accessibility • Increased accountability
Group 6	Group 7	Group 8	Group 9	Group 10
<ul style="list-style-type: none"> • Economic opportunity • Cost savings/efficiency • Emissions reductions • Safety • Data driven/research • Accessibility • Resilience • Encouraging innovation • Inclusivity equity • Transparency • Security • Corruption reduction • Convenience • Visibility • Future • Democracy • Public value • Creating jobs 	<ul style="list-style-type: none"> • Reduce pollution • Saving resources • Increased transparency • Enhance delivery of goods • New possibilities/paradigm shift • Community building • Reduction in crime equality faster deployment • Less public spending/burden • Partnership • Safety • Efficiency/speed • Decentralization of power • Job creation • Accessibility • Reduce traffic (walking congestion driving) • Increase civic engagement • Economic development • Quality of life 	<ul style="list-style-type: none"> • Make life better • Increased accessibility • Connected (social communication) • Increased mobility • Decreased congestion • Convenience • More pleasant • Increased public safety • Increased choice • Increased transparency • Innovations in health and medical advancement • Greater quality of life • Decreased anxiety • Increase environment • Increased ability to understand city functions through data <ul style="list-style-type: none"> ◦ Transparency of resources ◦ Monitor use • Transformational materials (spray on solar) 	<ul style="list-style-type: none"> • Democratization of services • Efficiency • Public safety • Accessibility • Sustainability • Improved transportation • Learning and research • Quality of life • More Non-PI data • \$ for some 	<ul style="list-style-type: none"> • Accessibility – democratization, food deserts, infographics • Efficiency • Responsiveness • Convenience • Iterative learning – get beyond assumptions of what people want • Intuitive • Adaptive • Connection to community and exploration (next door) • User friendliness • Opportunities for transparency • Alternatives to vehicle travel



JULY 23 OPEN WORKING GROUP BENEFITS OF TECHNOLOGY

Group 1	Group 2	Group 3	Group 4	Group 5
<ul style="list-style-type: none"> • Global perspective • Social connection • Speed of communication (Slack) • Ease of access to info (email, search engines, delivery bots) • On demand logistics (insta cart, postmates) • Convenience • Responsiveness • Security and privacy (health and personal information) • Personalization • Safety • Mental stimulation • Reduced costs / increased fiscal responsibility • Instant gratification/on demand • Transparency • Improved QoL and public health • Integration of system • Interoperability • Adaptable • Scalability 	<ul style="list-style-type: none"> • Improved quality of life • Security • Mobility • Efficiency • Safety • Public private partnerships value capture • Quality of democracy • Helping people v. enriching people • Personalization • Foster positive change • Foster v. force • Seamless integration for everyone • “only potential” • Travel • Jobs • Accessibility • Info dissemination • Cost efficiency • Will tech change for us v. we change for tech? • Trust • Social impact • Transparency • Awareness • Live full, rich, active lives 	<ul style="list-style-type: none"> • Sense of belonging • Better/improved QoL • Community development • Wealth-building • Accessibility • Livability • Healthier lives • More fun! • Reducing isolation • Sharing knowledge • Civic Engagement • More leisure time • Making things easier • Stress reduction • Peace of mind • Reduced barriers of entry to the workforce→more job opps • Increase of knowledge and understanding • Longer life span • Improved health outcomes • Broader horizons • Increased possibilities • Increased safety • Easier access to education • Efficiency/sustainability (env) • Access to products and services you need • Networks and friends • New experiences • Choice • Living through disasters/crisis response/survivability • Micro climate elimination/fog reduction 	<ul style="list-style-type: none"> • Accessibility/access non previously existent • Efficiency: resources, mobility, speed, process • Increase safety • Personalization • Economic tool→positive employment outcomes • Better anticipation of upcoming issues • Laborwork changes • Happiness • Better crisis management • Socialization • Better communication • Inclusion • Data / information resources • Transparency • Opportunities • Research to past • Comfort and easiness • Better health • Better access to healthcare • Teaching & learning • Tool to new access for disabilities • Augmentation 	<ul style="list-style-type: none"> • Efficiency • Accessibility • Improved QoL • Better health • Growth • Less pollution (air, water, noise) • Improved connections • Close the opportunity gap • Empowerment • Safety • Increase QoL • Entrepreneurship • Information/depth • Data synthesis • Opportunities • Cost reduction • Increased housing options • Environment • Greening of the city • Workability • Affordability • Transfer of skills (all skills-intellectual) • Physical/emotional • Exposure to new ideas • Engagement • Arts & Entertainment • Creativity • Accountability • Transparency • Resilience, support • Disaster response, coordination, alerts
Group 6	Group 7	Group 8	Group 9	Group 10
<ul style="list-style-type: none"> • Equity • Accessibility • Data • Improved services • New labor workforce • Cost savings • Public safety • Public health • Collaboration (public-private) • Equity in education • Improved UX -human centered • Revenue for the City • Common good • Infrastructure 	<ul style="list-style-type: none"> • Responsiveness/real time solutions • Greater transparency→increased trust • New tools for old problems • Opportunity to feel more connected→strengthen ties beyond geography • Opportunity to be more inclusive→opportunity for more input: more voice, e.g., translation 	<ul style="list-style-type: none"> • Increased connection between comm & gov. • Students prepared for jobs • Cost savings • Inclusiveness 	<ul style="list-style-type: none"> • Facilitates corporations • Solves transportation problems – congestion • More green space (fewer parking lots) • A more livable city • Safer city • More dense city • More convenience or access • Prepare us for imminent/pending changes like climate change 	<ul style="list-style-type: none"> • Public health • Well-being/happiness • Opportunity to redesign the city so it works better for people • Options/choices for people • Equity (if done right) • Mobility for people who can’t drive: schools, jobs, health, see friends, childcare • Increased affordability for legal problems • “right to the city” & access to... • Access to info/data



<ul style="list-style-type: none"> • Potential impact on public good • Insights from public data 	<ul style="list-style-type: none"> • Increased opportunity, e.g., jobs, access to info, services • Opportunity to remove geographic boundaries (disabled community) • Make life easier, solve common issues • Opportunity for new learning, greater collaboration • Improve service and faster more responsive→more data points • More efficient with city resources • Greater safety and security: persona (body); Data security • Economic benefits→opportunity to continue to lead→philanthropic drivers→support philanthropic • Opportunities in healthcare and education • Pipeline to jobs and job training→greater access beyond pedigree→skill balanced economy 		<ul style="list-style-type: none"> • Ability to track displacement • Prevent displacement • New jobs • Region's economic vitality • More data informed equity • Public engagement • Multi-modal connectivity – centralized, convenient • Cleaner streets • Reduce barriers to public benefits • Reduce language barriers • Bring the future to our community – more people will imagine what's possible and what they want to be better 	<ul style="list-style-type: none"> • Reallocate land (e.g., for housing) • Environmental sustainability • Save time / \$ • Individuals can control personal info
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Benefit Themes

The following is a synthesis of the potential benefits of emerging technology from both sessions and the pre-session survey: the benefits have been grouped into high-level themes:

JULY 9 & JULY 23 POTENTIAL BENEFITS THEMES			
<u>Accessibility to Services</u> <u>Equity</u>	<u>Efficiencies</u>	<u>Safety & Security</u>	<u>Economic Vitality & Jobs</u>
<ul style="list-style-type: none"> • Equity – Services to low served areas • Accessibility – more people can use service <ul style="list-style-type: none"> o Elderly disabled o New revenue • Access to critical services • Lower cost/better services (maybe no services) • Optimize the benefits in services • Access • Better coordinated services • Inclusivity • Equity • Faster response to need • Reduced disparity • Equity 	<ul style="list-style-type: none"> • Efficiencies <ul style="list-style-type: none"> o Better pricing • Convenience • Time management • Increased efficiency • Reduced costs for services <ul style="list-style-type: none"> o Greater impact o Greater collective benefit o Free other resources • Efficiency • Cost savings/efficiency • Convenience • Efficiency/speed • Convenience • Efficiency • Efficiency • Convenience • Convenience 	<ul style="list-style-type: none"> • Safety – navigate complex environment <ul style="list-style-type: none"> o Less fatalities • Enhanced safety • Safety • Security • Reduction in crime • Safety • Safety • Increased public safety • Public safety • Security and privacy (health and personal information) • Safety • Security • Safety • Increased safety • Increase safety • Safety 	<ul style="list-style-type: none"> • New occupations • Job creation • Increased opportunity for local biz • Resilience • Creating jobs • Job creation • Economic development • Jobs • Economic tool→positive • Laborwork changes • Growth • Close the opportunity gap • Workability • Transfer of skills (all skills-intellectual) • Increased opportunity, e.g., jobs, access to info, services



<ul style="list-style-type: none"> • Accessibility • Increased mobility • Increase accessibility • Accessibility • Inclusivity equity • Accessibility • Increased accessibility • Democratization of services • Accessibility • Accessibility – democratization, food deserts, infographics • Alternatives to vehicle travel • Ease of access to info (email, search engines, delivery bots) • Mobility • Accessibility • Accessibility • Reduced barriers of entry to the workforce → more job opps • Easier access to education • Accessibility/access non previously existent • Socialization • Better communication • Inclusion • Better access to healthcare • Tool to new access for disabilities • Accessibility • Opportunity to be more inclusive → opportunity for more input: more voice, e.g., translation • Opportunity to remove geographic boundaries (disabled community) • Reduce barriers to public benefits • Reduce language barriers • Options/choices for people • Equity (if done right) • “right to the city” & access to... • Equity in education • Common good • Inclusiveness 	<ul style="list-style-type: none"> • Reduced costs / increased fiscal responsibility • Efficiency • Cost efficiency • Making things easier • Efficiency: resources, mobility, speed, process • More time/lazy • Efficiency • Cost reduction • More efficient with city resources • More convenience or access • Multi-modal connectivity – centralized, convenient • Cost savings • Cost savings • Save time / \$ 	<ul style="list-style-type: none"> • Greater safety and security: persona (body); Data security • Safer city • Individuals can control personal info • Public safety 	<ul style="list-style-type: none"> • Economic benefits → opportunity to continue to lead → philanthropic drivers → support philanthropic • Pipeline to jobs and job training → greater access beyond pedigree → skill balanced economy • New jobs • Region’s economic vitality • New labor workforce • Students prepared for jobs
<p><u>Community Connections & Engagement</u></p> <ul style="list-style-type: none"> • Interconnectivity <ul style="list-style-type: none"> ◦ New communication channels • Connect to larger consumer base • Inclusion • Connectedness and community • Identity • Better connections • Community building 	<p><u>Environmental Sustainability & Preparedness</u></p> <ul style="list-style-type: none"> • Environment • Sustainability • Decreased environmental impact • Emissions reductions • Reduce pollution • Reduce traffic (walking congestion driving) • Increase civic engagement • Decreased congestion • Increase environment • Sustainability 	<p><u>Quality of Life</u></p> <ul style="list-style-type: none"> • Improve quality of life and access • Better access to communications and qol • Quality of life • Public value • More pleasant • Greater quality of life • Decreased anxiety • Quality of life • Mental stimulation • Improved QoL and public health 	<p><u>Innovation</u></p> <ul style="list-style-type: none"> • Innovation • Flexibility in design • Economic opportunity • Encouraging innovation • Innovations in health and medical advancement • Transformational materials (spray on solar) • Learning and research • Entrepreneurship



<ul style="list-style-type: none"> • Connected (social communication) • More Non-PI data • Connection to community and exploration (next door) • Social connection • Social impact • Sense of belonging • Better/improved QoL • Community development • Reducing isolation • Access to products and services you need • Improved connections • Engagement • Opportunity to feel more connected→ strengthen ties beyond geography • Opportunity for new learning, greater collaboration • Public engagement • Increased connection between comm & gov. 	<ul style="list-style-type: none"> • Efficiency/sustainability (env) • Living through disasters/crisis response/survivability • Micro climate elimination/fog reduction • Less pollution (air, water, noise) • Environment • Greening of the city • Disaster response, coordination, alerts • Prepare us for imminent/pending changes like climate change • Environmental sustainability 	<ul style="list-style-type: none"> • Improved quality of life • Live full, rich, active lives • Livability • Healthier lives • More fun! • More leisure time • Stress reduction • Peace of mind • Longer life span • Improved health outcomes • Happiness • Comfort and easiness • Better health • Increase QoL • Affordability • Physical/emotional • Make life easier, solve common issues • A more livable city • Public health • Well-being/happiness • Public health • Improved QoL • Better health 	
<p style="text-align: center;"><u>Data for Good</u></p> <ul style="list-style-type: none"> • Data informed decisions and policy making • More knowledge and insight to SF • New data/information <ul style="list-style-type: none"> o Info at scale o New types of data collected o Merchants make better buying decisions • Increased ability to understand city functions through data <ul style="list-style-type: none"> o Transparency of resources o Monitor use • Data / information resources • Information/depth • Data synthesis • Improve service and faster more responsive→more data points • Ability to track displacement • More data informed equity • Access to info/data • Data • Insights from public data 	<p style="text-align: center;"><u>Good Use of Public Assets</u></p> <ul style="list-style-type: none"> • Better use of public assets • Efficient uses of unused cap (i.e. housing, cars) • Re-envisioning public spaces • More green space (fewer parking lots) • Cleaner streets • Opportunity to redesign the city so it works better for people • Reallocate land (e.g., for housing) 	<p style="text-align: center;"><u>Transparency</u></p> <ul style="list-style-type: none"> • Opportunities for transparency • Increased transparency • Transparency • Transparency • Increased accountability • Transparency • Increased transparency • Increased transparency • Transparency • Transparency • Transparency • Transparency • Greater transparency→increased trust • Increased transparency 	<p style="text-align: center;"><u>Mobility / Congestion</u></p> <ul style="list-style-type: none"> • Solves transportation problems – congestion • Improved mobility • Increased mobility • Improved transportation • Mobility for people who can't drive: schools, jobs, health, see friends, childcare



KEY PRINCIPLES & CONSIDERATIONS

From Pre-Session Survey

“What values should the city prioritize when considering emerging technologies? Please select up to 5 values.”

Value	# of Respondents
Accessibility	50
Collaboration	38
Accountability	34
Security	32
Efficiency	29
Ethics	25
Equity	43
Labor Standards + Fair Wages	13
Privacy	25
Public Safety	39
Sustainability	34
Data Sharing	1
Street Design	1
Quicker adoption	1
Return on social benefits	1
Properly Regulated	1
Mitigate unintended consequences	1
Informing people and training	1

*Note: Full records of the pre-meeting survey and post-meeting survey are available in the appendix.

“What should the City do to make sure new technologies support San Francisco values?”

- Require early collaboration with private and other sectors
- Test technologies
- Emphasize safety
- Regulate
- Get out of the way



- Smart permitting framework
- Assess needs
- Public declaration of clearly articulated values
- Public participation
- Get feedback, assess regularly
- Ensure access for underserved communities
- Be more proactive

In-Session Input

18 principles or considerations for developing regulations were identified from Board of Supervisors Resolution 102-18, the Precautionary Principle adopted in 2003, and from staff and participant input (from the pre-session survey). These principles / considerations were presented to the session participants.

As part of the small group exercises, participants were asked to identify the 1 to 3 principles or considerations that they felt were most crucial when developing recommendations for emerging technology in the City / County of San Francisco. The table below shows which groups identified which principles / considerations as most critical.

From an evaluation of the brainstorm notes of values or considerations and how some of the outcome statements were written, “Equity” and “Accessibility” are closely tied or to some, may be inter-changeable terms; i.e., if regulations or technology is equitable, it will mean accessibility for all. Important to note is that “accessibility” was not just a term meaning that those with limited (physical) abilities have access, but that everyone has access to equal opportunities, benefits, services, etc.—disabled or otherwise.

From the simple tally below, clearly, high-priority principles or considerations are “Equity,” “Accessibility,” “Net Common Good,” “Public Value,” and “Nimble and Responsive Regulation.”

JULY 9 OPEN WORKING GROUP CRUCIAL PRINCIPLES / CONSIDERATIONS										
18 PRINCIPLES / CONSIDERATIONS PRESENTED	Grp 1	Grp 2	Grp 3	Grp 4	Grp 5	Grp 6	Grp 7	Grp 8	Grp 9	
Safety and security					X			X		
Net common good	X			X						
Impact on congestion										
Equity	X	X			X	X	X		X	
Safety, needs, and convenience of humans										X
Support rather than reduce the labor force										
Efficient and fair process										
Needs of the most vulnerable members										
Include labeling										
Manage risk										
Public safety					X					
Protect private information										
Accessibility	X							X	X	X
Costs on the use of public infrastructure										
Public-Private partnerships										
Public value							X	X	X	
Regulation should be nimble and responsive					X		X			X
Ethics										
JULY 9 PRINCIPLES / CONSIDERATIONS CREATED BY SESSION PARTICIPANTS										
Data driven policy		X								



Privacy / User protection		X								
Economic considerations						X				
Cost savings						X				
Efficiency						X				
Equality								X		
Transparency										
Agile, Nimble and responsive regulation										
Public/Private Partnership + Consumer										
Public oversight / Community control										

JULY 23 OPEN WORKING GROUP CRUCIAL PRINCIPLES / CONSIDERATIONS										
18 PRINCIPLES / CONSIDERATIONS PRESENTED	Grp 1	Grp 2	Grp 3	Grp 4	Grp 5	Grp 6	Grp 7	Grp 8	Grp 9	Grp 10
Safety and security										
Net common good						X		X	X	
Impact on congestion										
Equity	X			X	X		X	X	X	
Safety, needs, and convenience of humans	X							X		
Support rather than reduce the labor force										
Efficient and fair process	X									
Needs of the most vulnerable members							X	X		
Include labeling										
Manage risk										
Public safety									X	
Protect private information										
Accessibility				X				X	X	
Costs on the use of public infrastructure										
Public-Private partnerships								X		
Public value								X		
Regulation should be nimble and responsive		X				X				
Ethics		X					X			
JULY 23 PRINCIPLES / CONSIDERATIONS CREATED BY SESSION PARTICIPANTS										
Don't privatize public assets – Right to the City									X	
Human good first									X	
Improved quality and satisfaction w/ gov'n't resources							X			
Protect all SF from unintended consequences while suing new tools to address old and new problems							X			
Encourage innovation's adherence to SF Principles							X			
Improve social and economic and physical welfare of all residents							X			
Enhance democratic decision making	X									
Inclusivity		X								
Fun			X							
Quality of life			X							
Nimble, small scale incubation					X					
Keeping pace with the curve				X						
Environmental Impacts				X						
Accountability						X				
Transparency								X		
Public-Public Partnerships								X		



VISION

CCSF's Draft

This draft vision was presented to the session participants:

A City that puts people first and embraces technology to enhance quality of life and our public spaces.

In-Session Input

After selecting guiding principles or considerations, each small group was asked to write the ideal outcome by completing this sentence:

If we get the balance right of the presence of emerging technologies in our City and (principle), (principle), and (principle), the ideal outcome is...

Each small group's selected principles are **bold**, the outcome statements are **bold and underlined**.

JULY 9 OUTCOME STATEMENTS

Group 1

If we get the balance right of the presence of emerging technologies in our city, and **equity and accessibility, safety, and net common good** the ideal outcome is **a city that works with private enterprise to enhance safe and equal services.**

Group 2

If we get the balance right of the presence of emerging technologies in our city, and **equity, data driven policy, and privacy / user protection** the ideal outcome is **a live able, safe, inclusive city for all of those experiencing San Francisco.**

If we get the balance right of the presence of emerging technologies in our city, and **equity, data driven policy, and privacy / user protection** the ideal outcome is **responsive regulatory framework that is not over burdensome and fosters and promotes innovation and collaborations including public/private partnerships.**

Group 3

If we get the balance right of the presence of emerging technologies in our city and **equity** the ideal outcome is **a just and prosperous city, with access for all.**

Group 4

If we get the balance right of the presence of emerging technologies of **the net common good** the ideal outcome is **a City that improves quality of life and builds a connected, engaged community.**

Group 5

If we get the balance right of the presence of emerging technologies in our city, **we will build a tech ecosystem that delivers an equitable environment with enhancing public safety and security through a nimble and responsive policy and governance.**

Group 6

If we get the balance right of the presence of emerging technologies in our city, and **economic considerations, cost savings / efficiency and equity**, the ideal outcome is **to create trust among public, private and civil institutions while embracing emerging technology and ensuring safety and providing jobs.**

Group 7

If we get the balance right of the presence of emerging technologies in our city, and **equity, public value, and nimble regulations** the ideal outcome is if we get the balance of the presence of technologies in our city and **equity, public value and nimble regulations**, the ideal outcome is **that emerging technology improves the quality of live through dynamic collaborations.**

Group 8

If we get the balance right of the presence of emerging technologies in our city, and **safety and security, public value (public for all public good), equality and accessibility, and privacy**, the ideal outcome is **that emerging technology will work for people and benefit the broader San Francisco community, with promoting innovation.**

Group 9

If we get the balance right of the presence of emerging technologies in our city, and **public value, equity, and accessibility**, the ideal outcome is **a livable, safe, and secure city where everyone's quality of life is improved, and diversity is sustainable.**



Group 10

If we get the balance right of the presence of emerging technologies in our city, and **accessibility, nimble and responsive regulations, and the safety needs of convenience of humans** the ideal outcome is **infrastructure and technology that caters to the needs of everyone and businesses who live and visit here.**

JULY 23 OUTCOME STATEMENTS

Group 1

If we get the balance right of the presence of emerging technologies in our city, and **safety needs and convenience of humans, efficient and fair process and equity** the ideal outcome will be **tech is easily accessed and used by all now and near term, better distribution of tech benefits across all citizens (decreased digital divide), maintained leadership as center of innovation with a city leadership making informed and balanced decisions on technology, enhanced city living, improved quality of life for all.**

Group 2

If we get the balance right of the presence of emerging technologies in our city and **inclusivity, ethics of leadership and government and responsive and nimble regulations,** the ideal outcome will be **a review process with community, includes public engagement, rewarding company for succeeding their contribution (stop asking to test for free), offering opportunity to people who have been displaced, paying fair share and giving back to the city, mobility that is safe, affordable, timely travels for all, partner city and tech for state of the art municipal services, community benefits so that any tech that city adopts or fosters have a positive impact on the city.**

Group 3

If we get the balance right of the presence of emerging technologies in our city, and **the net common good, especially equity, safety and out city environments,** the ideal outcome will be **a more livable, loveable city for everyone.**

Group 4

If we get the balance right of the presence of emerging technologies in our city, and **keep pace with the curve, equity and accessibility and minimize environmental impacts,** the ideal outcome will be **an informed, connected, and supported community tht understands and benefits from the opportunity that technology brings towards a better quality of life.**

Group 5

If we get the balance right of the presence of emerging technologies in our city, and **promote nimble, small scale incubation and equity from inception to beyond,** the ideal outcome will is **more people participate and benefit, growth is deliberate, life, dignity and well-being are promoted.**

Group 6

If we get the balance right of the presence of emerging technologies in our city, and **net common good, accountability and regulations that are nimbler and responsive** the ideal outcome will **foster innovation and practice policy making to create an equitable distribution of benefits and minimize cost to society and individuals.**

Group 7

If we get the balance right of the presence of emerging technologies in our city, and **ethics, equity and the needs of most vulnerable users,** the ideal outcome will **improved social, economic, physical welfare of all while protecting all from unintended consequences.**

Group 8

<remote group did not complete an outcomes statement>

Group 9

If we get the balance right of the presence of emerging technologies in our city, and **safety universal accessibility, and net common good** the ideal outcome will be **less social and economic inequality...More happier people!**

Group 10

the ideal outcome is **a city that is accessible, transparent and innovative.**



POTENTIAL ISSUES OR HURDLES

From Pre-Session Survey

Issues/Concerns with new technology:

- Lack of neighborhood engagement
- Uncertain outcomes
- Replacing workforce with tech
- Expensive
- Lots of data
- Safety issues
- Waste
- Inefficiency
- People’s fear of technology
Benefits not evenly distributed/inequity
- Accountability issues
- Cybersecurity
- Patchwork regulations
- Balancing public policy goals with public pricing

Respondents believe the City sort of or does not know how to address problems with emerging technology. On a scale of 1 to 7 the average rating was 3.1.

Responses to the question, “The City knows how to address problems with emerging technologies.”

Scale	1	2	3	4	5	6	7
Number of respondents (78 total)	9	18	15	31	4	1	0

*Note: Full records of the pre-meeting survey and post-meeting survey are available in the appendix.

In-Session Responses

After creating their outcome statements, each small group was asked to identify the potential issues or hurdles that would prevent the City from achieving the desired outcome. Then each person in each small group was asked to vote for their top 3 most critical problems (each group member received 3 votes and could cast their votes for as many or as few problems). Below are the problems identified by small group, numbers in brackets, [X] indicate the votes a problem received.

JULY 9 OPEN WORKING GROUP POTENTIAL PROBLEMS OR HURDLES				
Group 1	Group 2	Group 3	Group 4	Group 5
<ul style="list-style-type: none"> ● Bureaucracy [5] <ul style="list-style-type: none"> ○ Special interest ○ Ego ○ Gov slow, Biz fast ○ How to lead in innovation ● Capacity – Gov side [3] <ul style="list-style-type: none"> ○ Resources, staff expensive 	<ul style="list-style-type: none"> ● Politically driven vs data driven policy [6] ● Money management ● Reactionary regulations [1] ● Over governance through bloated [5] <ul style="list-style-type: none"> ○ Complex graph of stakeholder 	<ul style="list-style-type: none"> ● Incoherent regulatory structure (ex. CPUC vs SF) [3] ● Secrecy of tech – proprietary info [2] ● City budget doesn’t drive equity [3] ● Too much optimism/pessimism [2] 	<ul style="list-style-type: none"> ● Speed at which tech emerges [2] ● Regulatory process [1] ● Future planning/prooing ● Ensuring tech matches need [2] ● Unintended consequences (1) 	<ul style="list-style-type: none"> ● Selfishness ● Lack of communication and transparency [1] ● Rapacious capitalism [3] ● Outdated law – federal law ● Rigidity of governance structure [3]



<ul style="list-style-type: none"> • Competing interest and needs <ul style="list-style-type: none"> ◦ Makes gov slow • Modern tech • Policy chooses winner vs. losers <ul style="list-style-type: none"> ◦ Prioritization • Limited resources in public space [1] • Who makes decisions? [1] • Commoditization of public services • Lack of awareness [3] <ul style="list-style-type: none"> ◦ Outreach confusing ◦ Who to reach out? ◦ How to engage • Community [2] engagement lacking <ul style="list-style-type: none"> ◦ People first? Who is that? • SF values/community constantly changing • Mass exodus of long term residents • Tech aversion – distrust of tech [4] <ul style="list-style-type: none"> ◦ Hot to focus on problem solving • First to market philosophy • To scale, need to work with gov to scale for community engagement • Fear of overbearing policy • Affordability? [1] <ul style="list-style-type: none"> ◦ Cost of living ◦ Displacement ◦ Breaks trust ◦ Gov not protecting residents • Fear of [1] • How to present vision and the potential [1] • Lack of the big vision • Is gov asking the right questions • Need to localize policies 	<ul style="list-style-type: none"> • Lack of true public/private partnership [2] • Lack of bipartisanship • Ballot box policy making [1] • Total failure of the City to leverage the innovative environment • Lack of infrastructure 	<ul style="list-style-type: none"> • Emerging tech too broad [1] <ul style="list-style-type: none"> ◦ Frame convo • Lack of articulated values [2] • Lack of defined purposes • Profiteering \$\$ (venture capital) [1] 	<ul style="list-style-type: none"> • Fear around adoption [2] • PPP and job loss/training • Tech creating or widening digital/economic divide [3] • Goals of City and comp may not be aligned [2] • Community limited cap to engage stakeholder gap [1] • Imperfection with inclusivity • Maintenance and upkeep not sustainable • Lack of consistent political leadership [2] • Status quo bias [1] • Financing / funding [5] • Project follow through 	<ul style="list-style-type: none"> • Antagonistic culture • Complexity of urban environment • Cost of <ul style="list-style-type: none"> ◦ Regulation ◦ Compliance ◦ Implement • Misaligned incentives [4]
Group 6	Group 7	Group 8	Group 9	Group 10
<ul style="list-style-type: none"> • Regulations: implementation of tech [5] • Lack of education of technology [1] • Tech arrogance • No RFI, not communicating issues [5] • Tech solving the wrong problems [3] 	<ul style="list-style-type: none"> • Bureaucracy [5] • \$ money [4] • Power dynamics • Poorly defined problems [2] • Digital literacy [2] • Community concerns • Intellectual property • Existing regulation • Local challenges • Profit motive 	<ul style="list-style-type: none"> • Fear of change [1] • City wide Wi-Fi • Cost • Access • Infrastructure limitations/ density • Silos – fragmented city government • Not so adaptable city functions • Public process [2] 	<ul style="list-style-type: none"> • Barriers to access [3] • Surveillance economy [1] • Consent (lack of, unclear) [1] • Safety (physical and cyber) [5] • Hard to define metrics for ideal outcome [4] 	<ul style="list-style-type: none"> • Existing infrastructure [3] • Perception of scarcity [1] • Systems that crash • NIMBYS [1] • Fear of change [4] • Lack of communication (gov and corps and people)



<ul style="list-style-type: none"> • Not taking inclusive approaches [2] • Lack of funds • Procurement • Analytic capacity • Poor labor practices (private) • Tech overhype • Too much venture capital/communication [2] • SF political process • Resistance to change [4] • Political disengagement: generational [1] 	<ul style="list-style-type: none"> • Existing infrastructure • Strictly enforced neutrality • Speed/development of new tech [3] • Qualified expert staff [2] • Lack of community involvement • Lack of incentives • Misunderstanding and fake news [2] 	<ul style="list-style-type: none"> • Timeliness of gov • Deep public engagement • Resistance to culture change [1] • Pace of change • Ability to be proactive vs reactive • Protection/perception of ownership of public space [3] • Concerns about safety, security and privacy [4] • Continuity of energy, power, communications [1] <ul style="list-style-type: none"> o Overly reliant o Resourcefulness o Resiliency 	<ul style="list-style-type: none"> • Lack of existing regs and impact on public private partnerships [1] • Bottom line focus of private companies [2] • Vandalism [1] • Increased congestion [2] 	<ul style="list-style-type: none"> • Selfish/reckless misuse (people and corporation) [1] • Limited public finance • Individual incomes • People can't access tech • Over regulation and mis-regulation [3] • Political outreach
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JULY 23 OPEN WORKING GROUP POTENTIAL PROBLEMS OR HURDLES				
Group 1	Group 2	Group 3	Group 4	Group 5
<ul style="list-style-type: none"> • Special voting interests [1] • Impact on sustainability [1] • Corruption [3] • Unintended consequences [4] (bikes in ocean) • Overly bureaucratic and complex or not bureaucratic enough [2] • Technological hubris [2] • Scope – lack of prioritization [1] • Varying goals /competing interests [2] • Outreach • Lack of universal useability • Lack of leadership [1] • Lack of representation • \$/funding [2] • Legacy infrastructure [1] • Comm with biz • Lack of transparency • Lack of data informed decision-making [3] 	<ul style="list-style-type: none"> • Speed of gov'n't. • Silos→tech-gov'n't.-community-other • Apathy [1] • Hypocrisy [1] • Disenfranchisement [1] • Lack of communications • Collaboration between agencies [2] • Not setup to get tech companies to help w/our problems [2] • Gov'n't. reorganization is difficult • "Gov'n't needs to clean its house first" • They think they know best (oth tech and companies) [1] • Accessibility • Inclusive input is hard! 	<ul style="list-style-type: none"> • Excessive regulation [2] • Bureaucracy [1] • Difficult trade-offs [3] • Slow processes [4] • Lobbying [1] • Political process [1] • Private interests • Legal barriers /jurisdictions • SF could become an afterthought [2] • Uncertainty 	<ul style="list-style-type: none"> • Funding [2] • Access to tech • Training/putreach [2] • Educational campaign • Innovative pilots [2] • Emerging tech not representing the broafer community but more specific groups of people. • Lack of inclusion and diversity [2] • Not having subject matter experts at the table [3] • Procurement process [1] • Drawing a line on how far the engage community in workforce training, but not jobs 	<ul style="list-style-type: none"> • Grow too slow [1] • Profitability [1] • Lack of incentives [2] • Innovation discouraged [1] • Lack of data • Lack of roadmap for success [1] • Funding [1] • Accountability [2] • Enforcement [2] • Communication [1]
Group 6	Group 7	Group 8	Group 9	Group 10
<ul style="list-style-type: none"> • Companies won't play [3] • Fear of tech • Bureaucracy [5] • Status quo • Privacy /IP • Profitability • Conflicting regulations [1] 	<ul style="list-style-type: none"> • Corporate control [2] • Invasion of privacy [1] • Cyber security→manipulation of data [1] • Conflicting needs→conflicting solutions • Over surveillance 	<ul style="list-style-type: none"> • Mistrust among disadvantaged • Inability to change • Group think • Picking winners and losers • Not letting tech mature before picking a vendor 	<ul style="list-style-type: none"> • Corporate interests has too much influence • Impossible to get everyone's input • No measurable outcome [3] • No defined end-game or destination/vision • Politics [1] 	<ul style="list-style-type: none"> • Make sure to have qualitative info • State and federal preemption [3] • Pay to play / \$ drives policy [1] • Tech is only for those who can afford it [3]



<ul style="list-style-type: none"> • Lack of transparency • Unaligned interests with public good [3] • NIMBY 	<ul style="list-style-type: none"> • Ageism / racism / classism [1] • Capacity of civil servants→job skills, budgets, resources, tools [1] • Govn't trust • Efficiency vs. options that meet all →unbalanced [1] • Lack of data transparency • Willingness to commit to long-term benefits • Risk management [1] • Entrenched interests/politics [2] 	<ul style="list-style-type: none"> • Lack of process for companies to get in to this • No clear public process for putting 'stuff' into public spaces • No penalties for non-compliance • Unscrupulous optimism • Vendors have little motivation to help gov. • Tech redundancy and duplication • Do we need so many gizmos? • Scope and scale of netfacing development is underestimated • Misunderstanding that public sector does not have assets to control the process • Urgency is not an auto benefit to the technologist • Most tech is expensive • Not having appropriate regulations/framework in place 	<ul style="list-style-type: none"> • Being reactive, not proactive [3] • Not getting permission • No accountability [2] • No penalties • No enforcement 	<ul style="list-style-type: none"> • Bureaucracy can stifle innovation • Assumption purely tech solves for everything [4] • Tech that doesn't solve problems • Public distrust→public doesn't trust companies, process, etc.
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Potential Issues / Hurdles Themes

The following is a synthesis of the problems that received votes in both sessions and the most mentions in the pre-session survey: the problems have been grouped into high-level themes:

JULY 9 & 23 ISSUES & HURDLES THEMES			
<u>Lack of Awareness, Understanding, Communication</u>	<u>Resistance to Tech / Change</u>	<u>Exclusionary</u>	<u>Bureaucracy/Govn't.</u>
<ul style="list-style-type: none"> • Lack of awareness [3] <ul style="list-style-type: none"> o Outreach confusing o Who to reach out? o How to engage • Community [2] engagement lacking <ul style="list-style-type: none"> o People first? Who is that? • How to present vision and the potential [1] • Lack of articulated values [2] • Lack of communication and transparency [1] 	<ul style="list-style-type: none"> • Tech aversion – distrust of tech [4] • Fear of [1] • Fear around adoption [2] • Resistance to change [4] • Digital literacy [2] • Fear of change [1] • Fear of change [4] • Emerging tech too broad [1] <ul style="list-style-type: none"> o Frame convo 	<ul style="list-style-type: none"> • Affordability? [1] <ul style="list-style-type: none"> o Cost of living o Displacement o Breaks trust o Gov not protecting residents • Not taking inclusive approaches [2] • Ensuring tech matches need [2] • Barriers to access [3] • Tech creating or widening digital/economic divide [3] • Disenfranchisement [1] 	<ul style="list-style-type: none"> • Bureaucracy [5] • Who makes decisions? [1] • Over governance through bloated [5] <ul style="list-style-type: none"> o Complex graph of stakeholder • Rigidity of governance structure [3] • Lack of consistent political leadership [2] • Lack of leadership [1] • Bureaucracy [5]



<ul style="list-style-type: none"> • Misunderstanding and fake news [2] • No RFI, not communicating issues [5] • Communication [2] • Community limited cap to engage stakeholder gap [1] • Political disengagement: generational [1] • Communication [1] 	<ul style="list-style-type: none"> • Lack of education of technology [1] <ul style="list-style-type: none"> • Status quo bias [1] • NIMBYS [1] • Apathy [1] • Hypocrisy [1] • Inability to change 	<ul style="list-style-type: none"> • Difficult trade-offs [3] • Lack of inclusion and diversity [2] • Ageism / racism / classism [1] • Efficiency vs. options that meet all →unbalanced [1] • Tech is only for those who can afford it [3] • Assumption purely tech solves for everything [4] 	<ul style="list-style-type: none"> • Overly bureaucratic and complex or not bureaucratic enough [2] • {lack of} Collaboration between agencies [2] • Bureaucracy [1] • Slow processes [4] • Procurement process [1] • Grow too slow [1] • Bureaucracy [5] • State and federal preemption [3]
<p style="text-align: center;">Poor Regulations</p> <ul style="list-style-type: none"> • Reactionary regulations [1] • Politically driven vs data driven policy [6] • Ballot box policy making [1] • Incoherent regulatory structure (ex. CPUC vs SF) [3] • Regulatory process [1] • Regulations: implementation of tech [5] • Lack of data informed decision-making [3] • Over regulation and mis-regulation [3] • Lack of existing regs and impact on public private partnerships [1] • Misaligned incentives [4] • Public process [2] • Excessive regulation [2] • Lack of incentives [2] • Accountability [2] • Enforcement [2] • Conflicting regulations [1] • Being reactive, not proactive [3] • No accountability [2] • Lack of process for companies to get in to this • No clear public process for putting ‘stuff’ into public spaces • No penalties for non-compliance • Not having appropriate regulations/framework in place 	<p style="text-align: center;">Lack of Government Resources</p> <ul style="list-style-type: none"> • Capacity – Gov side [3] <ul style="list-style-type: none"> o Resources, staff expensive • Limited resources in public space [1] • City budget doesn’t drive equity [3] • Financing / funding [5] • \$ money [4] • \$/funding [2] • Funding [2] • Access to tech • Training/putreach [2] • Innovative pilots [2] • Funding [1] • Qualified expert staff [2] • Not setup to get tech companies to help w/ our problems [2] • Not having subject matter experts at the table [3] • Capacity of civil servants→job skills, budgets, resources, tools [1] 	<p style="text-align: center;">Inadequate Protections for Safety, Security, Privacy</p> <ul style="list-style-type: none"> • Surveillance economy [1] • Consent (lack of, unclear) [1] • Safety (physical and cyber) [5] • Secrecy of tech – proprietary info [2] • Concerns about safety, security and privacy [4] • Invasion of privacy [1] • Cyber security→manipulation of data [1] • Risk management [1] 	<p style="text-align: center;">Damage</p> <ul style="list-style-type: none"> • Vandalism [1] • Selfish/reckless misuse (people and corporation) [1] • Impact on sustainability [1]
<p style="text-align: center;">Financial Gain at Expense of Public</p> <ul style="list-style-type: none"> • Profiteering \$\$ (venture capital) [1] • Rapacious capitalism [3] • Too much venture capital/ Bottom line focus of private companies [2] • Special voting interests [1] • Technological hubris [2] • They think they know best (oth tech and companies) [1] • Lobbying [1] 	<p style="text-align: center;">Speed of Tech</p> <ul style="list-style-type: none"> • Speed at which tech emerges [2] • Speed/development of new tech [3] 	<p style="text-align: center;">Strain on Infrastructure</p> <ul style="list-style-type: none"> • Increased congestion [2] • Existing infrastructure [3] • Unintended consequences (1) • Protection/perception of ownership of public space [3] • Continuity of energy, power, communications [1] <ul style="list-style-type: none"> o Overly reliant o Resourcefulness o Resiliency • Legacy infrastructure [1] 	<p style="text-align: center;">Inadequate PPPs</p> <ul style="list-style-type: none"> • Lack of true public/private partnership [2] • Goals of City and comp may not be aligned [2]



<ul style="list-style-type: none"> • SF could become an afterthought [2] • Profitability [1] • Companies won't play [3] • Corporate control [2] • Pay to play / \$ drives policy [1] 			
<p><u>Unclear Direction or Vision</u></p> <ul style="list-style-type: none"> • Too much optimism/pessimism [2] • Tech solving the wrong problems [3] • Poorly defined problems [2] • Hard to define metrics for ideal outcome [4] • Scope – lack of prioritization [1] • Lack of roadmap for success [1] • Unaligned interests with public good [3] • No measurable outcome [3] 	<p><u>Politics</u></p> <ul style="list-style-type: none"> • Political process [1] • Entrenched interests/politics [2] • Politics [1] 		

PARKING LOT / GARDEN

Session participants were given the opportunity to add any topic to the “Garden” (commonly referred to as a parking lot) that they felt was not discussed during the session.

July 9

- Precautionary Principle = Making sure no harm is done
- Privacy / Confidentiality
- Non-digital access restrictions / limits

July 23

- Free forum, Friday, July 27, 7pm, 518 Valencia (16th street): “Uber, Lyft, Public Transit and the app nightmare.” Panelists: Lyft drivers, etc.



APPENDIX

JULY 9 SESSION ATTENDEES

Arielle Fleisher, SPUR	Brian Wiedenmeier, SF Bike Co	Gary Stock, Firely
Jacqueline Piccini, Noyola Piccini	Jonas Soluk, UC Berkeley	Julianne Marshall, Marble
Mark Dowd	Nadia Hewett, WEF	Sam Dreiman
Susan Poor	San Franc Tech	Vignesh Ganapathy, Postmates
Peter Warfield, Library Users	Michelle Beaulieu, Transportation Authority	Anette Williams, SFMTA
Andrew Sun	Anya Deepak, Dept. of the Environment	Carmel Gisslow, New Deal Advisors, student
Christopher Whipple	Claire Peters, Pursuance	David Chasteen, SFPD
Erica Maybaum, Supervisor Yee's office	Gillian Gillett, Mayor's Office	Joanna Fraguli, MOD
Joshua Miele, Smith-Kettell	Julianne Marshall, Marble	Laura Gray, Cruise Automation
Luis Cuadra, Marble	Marie Jobling, Community Living Campaign	Nina Asay, The ARC SF
Patrick Fosdahl, Public Health	Pete Gould, Share Mobility Strat.	Rudy Gonzales, SF Labor Council
Kim Tavaglione, National Union of Healthcare Workers	Sidharth Mishra, America Works	Susan Ma, Office of E & Workforce
Vas Kiniris, SFCDMA	Vikrum Aiyer, Postmates	Wendy Goodfriend, Dept. of the Environment
Zachary Drucker, SF Citi	Brian Roberts, Dept. of Tech	Dillion Auyoung, SF MTA
Shahhid Buttar, EFF	Abe Field, Lavos Latino	Andy Thornley, SFMTA
Cathy DeLuca, Walk SF	David Noyola	Dennis Garcia, Catholic Charities
Dmitri Shimolin, Applied Video Service	Franco Arieta, Zipcar	Henry Karnilowicz, Castle District Motions
John Lazar, Luxe Cab-DVJ Consulting	Lauri Sanchez, Community Tech Network	Mark Dowd, Smart Cities Collab

JULY 23 SESSION ATTENDEES

<p>AJ, McBride, Tech Sf Alice Armitage, US Hastings Ashley Cohen, Zipcar Jay Owens, Homebridge Julia Friedlander, MTA Rebecca Siegel, UC Hastings Saayelo Mukherji, Elementum Salomon Green-Eames, SFMTA Brad Taylor SPPUC Brent Turner, CA Assoc. of Voting Officials Angelia Di Martino, Cany Senior Center Cathy Spensley, Felton Darryl Yip, SFMTA Darton Ito, MTA David Young, Omni</p>	<p>DC Spensley, Open Channel Fran Taylor, Si Si Puede John Urgo, CTA Kellyn Blossom, Thumtack Lucy Greco, UC Berkeley Luis Cuadra, Marble Madeira McQueen, St. Anthony's Mariko Davidson, Ford Gobilee Michael Makstman, DT Nicole Bohn, MYD Randall Scott, Union Square BID Richard Scott, Goodwill Rosa Revuelta, Goodwill Ryan Greene-Roesel, BART Scott Mauvais, Microsoft Serena Keith</p>	<p>Tim Lucas, EARN Alex Mitra Alice Rogers, SB/R/MBNA Bob Planthold Crustal Booth, SF Senior Center Debra Gore-Mann, SF COnservation Care Erica Lin, Healthright 360 Forest Barnes, SFMTA James R. Anderson Josh Fried, Waze Joy Bonaguro Lulay Aczel TSG Andy Aczel TSG Reymon LaChaux, Success Center SF Robert Cantioni</p>
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SYNTHESIS OF PRE AND POST SURVEY RESPONSES FROM JULY 9 AND JULY 23

Pre-Survey:

- Respondents believe technology can have a positive impact on their community.:

Scale	1	2	3	4	5	6	7
# of Respondents	0	0	1	3	11	21	44

- Most respondents shared stories about how technology *improved* their lives:
 - Positive: Increased efficiency, stay in better touch with friends/family, access city services via 311, more information available, new educational opportunities, easier to travel, transportation easier with GPS and ride share
 - Negative: Work devalued as replaced by computer, congestion and disobeying laws from ride shares, airbnb negatively impacting housing market
- When asked to define emerging technology, respondents said that emerging technology is both new (“in development,” “being tested”, “new method,” “adolescent” etc.) and a change agent (“create conflicts with existing systems,” “evolves the way we do things” “potential to change the status quo” etc.). Several also described there being “unknowns” (“grey area” “unknown consequences”) and others referred to the kinds of companies producing the technology (“venture capital funded” “startups”).
- Examples provided of emerging technology:
 - AI
 - Sensors
 - Shared mobility
 - Big data
 - Robots
 - Autonomous vehicles
 - Machine learning
 - Amazon acquirng Whole Foods
 - Accessible pedestrian signals
 - Electric skateboards
 - Mobile phones
 - Fast internet
 - Software
 - CRISPR
 - 3D Printing
 - Dahlia



- Opportunities/Benefits of new technology:
 - Efficiency
 - Partnerships
 - Reduce congestion/better sustainability
 - Improve health
 - Services to homeless
 - Streamline services
 - Better security
 - Equity
 - No benefits

- Issues/Concerns with new technology:
 - Lack of neighborhood engagement
 - Uncertain outcomes
 - Replacing workforce with tech
 - Expensive
 - Lots of data
 - Safety issues
 - Waste
 - Inefficiency
 - People’s fear of technology
 - Benefits not evenly distributed/inequity
 - Accountability issues
 - Cybersecurity
 - Patchwork regulations
 - Balancing public policy goals with public pricing

- Values to prioritize:

Value	# of Respondents
Accessibility	50
Collaboration	38
Accountability	34
Security	32
Efficiency	29
Ethics	25
Equity	43



Labor Standards + Fair Wages	13
Privacy	25
Public Safety	39
Sustainability	34
Data Sharing	1
Street Design	1
Quicker adoption	1
Return on social benefits	1
Properly Regulated	1
Mitigate unintended consequences	1
Informing people and training	1

- Respondents believe the City sort of or does not know how to address problems with emerging technology.

Scale	1	2	3	4	5	6	7
# of Respondents	9	18	15	31	4	1	0

- What should the City do to make sure new technologies support San Francisco values?
 - Require early collaboration with private and other sectors
 - Test technologies
 - Emphasize safety
 - Regulate
 - Get out of the way
 - Smart permitting framework
 - Assess needs
 - Public declaration of clearly articulated values
 - Public participation
 - Get feedback, assess regularly
 - Ensure access for underserved communities
 - Be more proactive

Post-Survey:



- Generally, respondents thought the meeting was successful. On a scale of 1 to 7, most respondents gave a 6 or 7:

Scale	1	2	3	4	5	6	7
Number of respondents	0	0	5	2	6	11	5

- What respondents liked:
 - Small groups, organization and preparedness of staff throughout the day
 - Facilitator
 - Well thought out categories
 - Diversity of participants
- What we could improve:
 - Get more into the weeds
 - Better balance small groups based on job or topic
 - Better room and chairs
 - Define emerging technology/scope
 - More diversity
 - Accessibility accommodations
 - Include people from Accella city integration program
 - Hand out participant list
 - No suggestions
 - More narrow focus
 - More people
- Things to share beyond what was discussed in the meeting and the survey:
 - Nothing to share
 - We should tease out the health impacts of technology, better definition/clearer vision of the December deliverable
 - More representatives of the affected companies
 - This is a one time opportunity for SF
 - Think through how different levels of government interact with one another
 - Our group kept getting caught up on "emerging technology in mobility" vs. "SF as the tech industry hotbed and what that means for transportation and mobility."

JULY 9 PRE-MEETING RAW SURVEY RESULTS

In your opinion, what is emerging technology?



Technology that has not been widely adopted and is being deployed and tested in some limited capacity
An innovative, hardware or software based service that has the promise to address social, urban or governmental challenges at a scale never previously considered, or with a tool never previously envisioned. While it's singular application may define the problem statement it's aiming to address -- the nascent nature of the technology means that the entirety of its use-case has yet to be full envisioned.
It's an adolescent tool that needs to grow up a little bit to realize its potential – and it needs to have that potential to warrant cultivation
Cellphone apps facilitating economic activity in legal grey zones
That which uses wireless control, navigation and transactions
Automation, online delivery/retail, online banking
Any new ideas or tools that can be used by people to better their lives. mostly on computers or smart phones but can be so much more i.e. autonomists transportation or apps or standalone devices that perform a task
Use the updated technology methods to help to improve efficiency and effectiveness of the service delivery
New and innovative technology which has the potential to impact a large number of people.
Creating and adapting various technologies to improve the lives of San Francisco residence.
A new technology with potentially impactful implications for society (consumers, patients,)
New technologies that are changing the way society works and is structured.
Technologies that are still in development, testing or piloting.
Emerging technology empowers people and democratizes access to services and information.
Emerging technologies are technologies that are capable of changing the status quo.
A new technology or one in development that in the next 5 years will have a measurable impact and has the potential to significantly alter the environment (social, physical, public space, business, commerce, communication, bio-tech, etc.)
Technologies which may change the status quo
New technology that is still somewhat mysterious to many consumers.
Technologies that can change the status quo but are still being refined/tested
Technology that shows promise in advancing civic, business, social, scientific, medical, etc. issues in society.
Startups (for the purposes of city government, I think the new technologies are less important than the new business models created by technology startups...which might not use any particularly new or innovative technology)
Technology enabled tools and services that are enabled by adoption.
Emerging technologies are those technical innovations which represent progressive developments within a field for competitive advantage
New innovations in transportation that impact urban mobility.
Technology that has either just left the prototype stage, or if being applied in a new way.
A wide range of new advances that tend to be designed to change the status quo - hopeful to improve people's quality of life. Sometimes, however, can have a negative, uneven benefit.
Emerging technology is technology that is moving from the development stage to application stage. In this context though, I feel it is technology that has the potential to disrupt the market, but has not been tested at market scale yet.
New innovations using current, new technology to deliver a better integrated, measurable and accessible services for all the residents of the city.
Venture capital-funded systems for addressing new or newly-identified problems, generally geared toward eliminating inefficiencies.
technology that changes the way we conduct our business, personal and community lives
Globally: AI
Untested or new technologies for mobility, communication, etc.



Technology that has been developed and used in specialized settings (e.g. the military) that is crossing the threshold to general use (e.g. drones).
Emerging technology is technology for which the vast majority of its immediate potential has yet to be explored - it's early in its development and refinement and/or its yet-to-be explored societal applications stand to be extremely impactful.
Emerging technology is a new technology or usage model of an existing technology designed to address an existing challenge or shortcoming in the system.
technology that changes what we do and how we do it
Emerging technologies are technologies that are perceived as capable of changing the status quo.
Communication, collaboration, and information access tools that are easy to use from multiple platforms.
Previous technology that is being innovated in a way that has not been seen before, or new technologies that are being created. A technology that still has many unknowns (regulations, externalities, etc.).
new technologies which have impacts that we are only starting to understand
Technology in the infancy stage that has potential for rapid growth and impact on people's lives
a method or technique (often realized via digital/interneted systems in combination with existing methods / techniques / systems) developed or adapted to support a novel purpose
A technology that has the great potential to make a transformative impact in society. During the early emerging stages, there are periods of exploration that are needed to truly understand the opportunities, impacts, and benefits.
The application of newly learned scientific knowledge; or the application of known scientific knowledge in a new or different way than it has been applied in the past.
Unprecedented technology capabilities to deliver new applications
new technology that help solve government/city challenges
Any hardware, software or tool that has started altering the way services, products, processes or problems are addressed.

What is an example of emerging technology?

Automated vehicles
Big Data Analytics for Policing; Robotic Rovers on the sidewalk for mapping curb space, offering 311-like support, delivering goods; autonomous vehicles; etc.
Machine learning
Airbnb, shared dock less vehicles, sensors
Autonomous vehicles, electric scooters, keyless controls.
Amazon acquisition of Whole Foods, autonomous delivery robots
electronic personal assistants
311 app
Driverless Cars
Accessible Pedestrian Signals
LIDAR Technology for navigation
Autonomous vehicles
Autonomous Vehicles
Autonomous robots and cars.
Robotics
the launching of e-scooters in SF



The automobile. Mobile phones. Bicycles. Solar panels. Fast internet.
drones, ride sharing services, social media
AV and dock less bike share
Autonomous vehicles
e-scooters
smart home devices
AI, 3D Printing, Robotics, Sensors
Autonomous vehicles, micro mobility (scooters, etc.)
Self-driving cars, AI
Artificial intelligence, 3 d printers, nanotechnology
Block chain, human body communications, digital twins
Shared services and goods marketplace apps is a great example of how emerging technologies can maximize benefits for everyone.
Sidewalk delivery robots, electric scooters, facial recognition
Einstein program in Salesforce
Electric skateboards, google glasses, hover boards...
Artificial technology
self-driving cars
civic technology
Shared mobility, such as TNCs, dock less bike and scooter sharing, and autonomous vehicles of all sizes.
remote home safety, ride apps, food apps,
Emerging technologies that are affecting small business and the neighborhood merchant corridors include Google, Facebook, Instagram, Yelp, Lyft, Airbnb, Caviar, Uber Eats etc.
Internet Access as easy and reliable as dial tone.
The use of self-driving cars
software/operating systems specifically tailored for different types of work
block chain
shared electric scooter board services -- the scooter boards themselves are not very different from 20th century stand-up skateboards, but operators like Bird and Spin leverage evolved tech elements (GPS & electrical storage and locomotion & remote governor systems) and the service control system leverages personal internetworked gizmos (phones & tablets) for operations / billing / support
Integration of mobile robots and autonomous vehicles into daily life
So many things! Using sensors and digital processes that allow people to gain access to things after a series of approvals (car sharing, bike sharing, scooter sharing, etc.); using metal organic frameworks to pull water from dry air (http://news.berkeley.edu/2017/04/13/device-pulls-water-from-dry-air-powered-only-by-the-sun/)
Artificial intelligence
multi-mode digital sensors to help manage curb and public space, emerging mobility
E-cigarettes, commercial drones, shared bikes...

Technology can have a positive impact on my community.

Scale	1	2	3	4	5	6	7
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# of Respondents	0	0	0	3	9	13	24
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Please share a story of how a technology has affected your life.

Emerging technologies have made it easier for me to save time, do collaborative work, and more efficiently get work done so that I can have more time for the other aspects of life.
Last-mile transportation & the transformation of commerce through app-based technologies have changed how urban dwellers move around or access good.
When I was 23 I had an internship in San Mateo and drove across the Bay Bridge from Berkeley 5 days a week so that I could sit at a desk and call people on the phone to ask them if they wanted to come to the now defunct Invasion conference in San Francisco. I do similar work now, but sales automation software, Zoom Webcam VOIP calls, and high-speed Internet have obviated the need to burn fossil fuels and waste my life sitting in traffic on the Bay Bridge 5 days a week. Not only that, but I use machine learning algorithms to improve my effectiveness when performing similar tasks.
I don't own a car. Ride share has made it easier to get around to areas not well-served by transit.
Self-driving cars have the ability to save lives, reduce congestion, and help the State of California reach its rigorous GHG emission reduction goals.
Using GPS to navigate even in the country in Australia, transmitting of emails and photos from beyond Ulaanbaatar, Mongolia. Finding my phone over my computer.
Pressure of adopting online business models without tech support and vetting of companies for small businesses. Regulations placed on brick and mortars not equally applied to online retail.
ride sharing has made it so I can travel to more places effectively
Access of information, outreach strategies and data collection
I can now attend meetings or trainings on line without having travel.
Accessible pedestrian signals. It has made a huge difference in how blind and visually impaired people travel safely.
Mobile streaming video connects me with friends and family around the world.
Being able to take photos of checks to deposit them online is amazing and convenient.
Zipcar enables me to live a car-lite life, providing me access to vehicles when I need them, on demand.
Without technology I would not have been able to learn how to work, how to code, how to build art, technology has democratized access to education and makes me yearn to learn more all the time.
The advent of online retail has allowed me to be more efficient with my time, allowing for more focused leisure time.
GPS has allowed me to travel confidently in unfamiliar areas and countries. Also the communication apps have allowed me to keep in touch with people in other countries at an affordable to no cost
I'm alive today due to emerging technologies. We all benefit from them. Medicines which make us safer and healthier, cleaner water, cleaner air.
The availability/ease of accessing Zipcars in San Francisco has saved me on multiple occasions when I would have otherwise have been stranded (i.e. I usually take BART to work and there have been a few times I had to pick up one of my kids from school when they were sick). On the flip side, the influx of ride hailing drivers in SF have made streets less safe than ever before as a direct result of the habitual stopping to pick-up/drop-off passengers in the middle of the street and drivers paying attention to GPS only, instead of traffic signals, pedestrians, bikers, etc.
Smart phones, tablets and laptops have made it possible for me to work more flexibly and efficiently, share information more easily, and have quick and easy contact with the medical system, retailers, etc.
I teach urban innovation at the Berkeley Haas School of Business, advice civic tech companies, started the public policy team at Airbnb.
I never need to worry about being locked out of my place or leaving a device or light on.
Solved work and process problem of visitor management and office security with Pepper - humanoid robot.



TNCs (Uber and Lyft) have dramatically changed how San Franciscans get around. For people who bike, the consequences have been largely negative, especially in terms of safety and congestion.
Google Maps on a smartphone dramatically improved my traveling experience. Ten years ago I had to spend hours preparing and print out paper maps, and I still got lost occasionally. Now I never get lost, always find the right bus stop, and really discover cool neighborhood shops no matter where I am.
I use technological applications in everyday life and especially at work. There are many automated processes I use from using AI to find a calendar spot to respond able to figure out when someone will respond to my emails. All in all, technology has made it easier and more efficient to do mundane tasks, freeing up time for strategic ones.
We use an app for all client engagements through mass web texting, document sharing etc. and it has substantially enhanced the client engagement.
Because of Uber/Lyft/JUMP bikes I got rid of my car and now use sustainable sources of transportation
Allowed me to make differences in how I do my work. Computing and tracking transactional work to free me up to do more transformational work. Personally: I eat better as I can get more options of meals through my phone.
Has helped in accessibility
Over time, the proliferation of communication via email and text, enabled by ubiquitous connectivity has placed me in a work context that expects 24x7 access, response and effort. In addition, the "free" email services are "following" my actions and using my data; my privacy and agency have been compromised. It's a double-edged sword--good things and bad things. We need to think more thoroughly about the consequences that come with benefits.
I've used an app on my smart phone to have conversations with people with whom I didn't share a common language.
I am connected 24/7 with social media to friends, families, enemies, other places, other societies
Accessibility and instant gratification are some key benefits to many emerging technologies. As a business owner, I'm able to curate my brand and make myself more accessible and relatable to the end user.
Accessing information and communicating with friends/family quickly with minimal effort using intuitive interfaces.
Technology has allowed me to stay more connected with family in different cities.
Google docs changed the way that I write and did assignments with groups and personally in college.
My current job is to identify, develop and implement job training programs for occupations requiring technical skills so I need to stay informed and aware of the technology sector and impacts on the labor market.
The iPhone app Find Friends allows my wife and me to keep track of where the other one is (as with many cases of personal internetworked data sharing, this miracle has downsides as well as upsides, but I'm comfortable sharing a beacon with my wife!)
I am inspired everyday by individuals that are implementing robotics into society. I share the stories with my children and I see the excitement in their faces when they interact with robots and hear of stories of robotics making an impact. Their excitement keeps me motivated and inspired to promote STEM/STEAM and the robotics industry.
Technology allows me to conceptualize and recreate my thoughts and feelings, outside of my head, and enables me to share and communicate my thoughts to others. Technology also has allowed me to see and perceive the thoughts and perspectives of other people.
GTFS has enabled development of third-part mobility services and apps that provide a more efficient way for all community members to plan trips and travel.
I've cut my ride hail expenses by \$200/month thanks to the bike share program

What values should the City prioritize when considering emerging technologies? Please select up to 5 values.

Value	# of Respondents
Accessibility	30
Collaboration	27



Accountability	20
Security	16
Efficiency	19
Ethics	17
Equity	27
Labor Standards + Fair Wages	6
Privacy	15
Public Safety	26
Sustainability	20
Data Sharing	1
Street Design	1
Quicker adoption	1

What opportunities or benefits do you see with emerging technologies?

Private/public partnerships, data driven solutions to difficult policy problems, greater responsiveness
Efficiency, transparency, and increased access to resources
Reduction in vehicle trips, new economic opportunities, improved services
Save lives, reduce congestion, promote efficiency, and complement public transit needs, GHG emissions reductions.
Reducing congestion on roads and use of paper documentation. Also security.
helping transition traditional business into new markets, streamline bureaucracy
if we think of creating new tools and ideas in a more inclusive way we can fix the barears that every day people have but if we only think of the slandered user we fail in serving all users
Collaboration of community service partners
Increase efficiency
Collaborative efforts among many various interests of groups to create something that can benefit everyone.
Potential to advance society.
Not sure. Convenience seems to be the main benefit, but I don't think that's an important enough value to prioritize these technologies. Autonomous vehicles promise safety -- but for whom? The people in the vehicle or outside of the vehicle? And who will be using these vehicles -- just affluent folks? And what does it do to our land use and sense of place if we center our transportation system on small vehicles?
Equitable access, sustainability, increasing safety.
The power to democratize access to services and products that were previously considered a luxury.
Emerging technology can improve people's lives in many ways. Technological advancements can help people complete tasks more efficiently, keep them safer and healthier and also protect the environment.
Efficiencies to support better identification of issues and facilitate improved services and processes for residents, opportunities for accessibility for vulnerable communities, public/private partnerships, data-sharing



Healthier people, happier lives, cleaner environments, less car dependence,
Safety and collaboration should be the most important values that emerging technologies prioritize.
Ways to ensure that no person is isolated, left behind in the SF economy or unable to access tools that are dependent on being able to afford them. As SF should, it is moving toward becoming more efficient through technology, but city residents must be able to take advantage of technology changes.
Can more quickly respond to citizen needs
Curbing emissions. Improving mobility. Improving public safety.
Cost savings, improved service delivery, economic development
Increased safety on our streets due to reduction in traffic collisions.
Emerging technologies solve problems we've been blind to because we didn't know there was a better way. Most new technologies raise the standard of living, build better communities, and help people get what they need while spending less money and time.
Some emerging technologies, if available in a more equitable way, can improve quality of life, compensate for disabilities, reduce loneliness and isolation, and improve health and well-being.
Accessibility of services to all, convenience and safety, transparency
City needs emerging technologies to integrate and benefit from all small to large stakeholders (private sector to government agencies) to maximize the benefits to all citizens.
Filling actual gaps in public service that are demonstrably infeasible for governments to provide
Allowing for a better quality of life.
If deployed appropriately into the existing city context they could help us achieve our climate and sustainability goals in a fair, inclusive and equitable manner.
More efficiency
I think technology has tremendous potential to provide accessibility to information and services to all. This would be a huge benefit to individuals and society. Democracy depends on an informed citizenry, participating.
They have the ability to rapidly improve situations in ways that good strategy, clear logistics, and efficient administration cannot.
Improving urban mobility and non-single occupant vehicle (SOV) transportation options that are sustainable and active.
Bridge opportunity gap between low income young adults
Many legacy businesses need assistance in learning how to leverage the digital tools these emerging technologies offer.
Continuing to provide inexpensive Internet access solutions for the community.
There are a lot of technologies that would benefit the City. Many of these companies want to collaborate. These are opportunities for the City, its residents, and those that work within the city.
streamlined collaboration through multiple organizations and languages
Increased efficiencies in completing tasks. New occupations to train and educate individuals in.
easier and more convenient access to information and services
Increase accessibility, safety transportation and mobility options, and the ability to receive goods more efficiently and reliably
The opportunity to create less waste; lessen the poverty gap; implement a standard quality of life; create access to basic resources for all people in a given region (water, shelter, food); and address challenges like traffic management
The potential to provide new capabilities that meet unmet needs or improve upon existing capabilities
potential to bring gov't services into digital age, streamline antiquated processes
Saving the public sector capital, proving them with proprietary data and a way for them to experiment in a controlled and efficient way

What issues or concerns do you have about emerging technologies?

Inequity, lack of access



That entire industries get punished because some actors choose not to work w/ Cities at the outset.
That they are too complex to be regulated by ethical public policy
Lack of oversight. lack of accountability by industry for externalizes, eroding support for public services like transit, elite projection
Patchwork regulations or those that push a service out of the market before it can firmly establish its benefits to San Francisco.
Hacking and identity stealing
Policy is always playing catch up and then taking extreme measures to overcompensate. Equal protection violations as taxes, fees, and regulations not equally applied to online realm. Technology (retail, etc.) often consumer focused not producer focused and does not know how to work with existing businesses, etc.
to many people do not think inclusively we need to give inventors guidelines on how to include all types of ability's and skills
Equity access of the underserved population
Public Safety
Potential bureaucratic due-process that hinders and/or derails progress and/or innovation.
Unintended consequences e.g. use of technologies for terrorism.
I'm concerned about the public right of way being used for private gain. I'm concerned about how these technologies will affect the accessibility and safety of our streets and sidewalks for pedestrians.
Balancing public policy goals with public pricing targets. Ensuring appropriate partnerships between the private and public sectors.
It's important to understand how to mesh seamlessly within the fabric of our communities, of our day to day lives. Emerging technologies should empower people, not the other way around.
I am generally optimistic about emerging technologies; however, there is always the concern of automating workforces and depriving people of their jobs.
The launching of a technology on public infrastructure without notice, permission or process. Technology prioritized for the benefit of the few. Short-term / short-sighted benefit impacting public infrastructure and residents. Inequitable public/private partnerships. Loss of privacy and non-secured collection of data by start-ups without proper infrastructure in place to ensure privacy and secured collection of data.
I'm worried the city will slow down adoption or limit the positive effects of emerging technologies. For example, SFMTA capping ebikes at 250 was a bad decision because it restricts the emerging technology of ebikes which can clean our air, improve public safety, and boost the economy.
TNCs have made San Francisco streets an unsafe "free for all" where stop lights, crosswalks and one-way streets don't protect passengers and pedestrians any longer
Ensuring that the voice of consumers - of all ages, abilities, ethnicities and income levels - is consistently included in planning and implementing emerging technologies.
Lack of accountability
Waste. Social disconnection. Inequity.
Ensuring public benefit, Risk of unintended consequences
I worry about the impact of autonomous vehicles on equitable access to transportation choices and the deterioration of civic space.
Externalities must be priced correctly
That they will continue to widen the digital divide, especially for those that are older, communities of color, those who are low income or have disabilities.
access to data that should not be shared, privacy issues, parity issues related to livability
Getting the buying from community as politics in the city makes it difficult at times.
I generally fear that the drive for creation and acquisition of capital and the consequent tendency toward lucrative vertical integration creates an incentive to innovate that does a poor job of thoroughly anticipating various harms to the public - e.g., the duplication of existing public goods and services, the disruption of "inefficient" systems that are inefficient by virtue of their reliance on human labor



The city is so negatively reactionary to new technology that they invite a forgiveness not permission strategy. For example, if the e-scooter companies had waited to launch until SF had a permit process, it would have taken years. By launching, while upsetting too many, they forced the city to move quickly and the end result will be a better system for everyone.
Accessibility (financially and in design)
That they are driven by economics almost solely, and while the intent might be to support the values and vision of the city in the end the developers want to rapidly test, scale, and then sell.
no issues as long as it works with business and the private sector
Profit motive, replacing workers with technology and adding to the number who are unemployed. Expecting people to adapt to technology rather than adapting the tech to people (e.g. drones and self-driving vehicles affecting pedestrians)
The aforementioned benefit doesn't make it an actual replacement for good strategy, clear logistics, or efficient administration. It also seems a lot more possible for the technology to be adopted like a fad - taken up on a whim, misapplied, and/or not given the follow-through it would require to be of real benefit.
Many companies focus solely on initial growth over any business model sensibility.
access for low income communities and young adults
Many emerging technologies want to engage the small business community but there isn't an efficient way to engage them.
Cost to deliver may be prohibitive.
Iteration is fast and there may be unintended consequences because ideas/feedback was not garnered from a diverse group. There may be growing pains as emerging technologies are being adopted.
exploitation of consumer data and privacy
How do we ensure people who aren't as knowledgeable get access to the information so that they understand the potential impact on their lives and how to prepare for it?
equitable and affordable access to information and services
My biggest concern is for individuals that fear technologies. It's understandable, however there must be a commitment to educate and ease concerns and fears to experience the true benefits.
I'm concerned that business models and the pursuit of profit will take priority over design, accessibility, and sustainability of products, services and processes for implementing and maintaining emerging technologies.
Regulation and market mechanisms tend to lag technology applications
going with the latest trend/start up without doing due diligence research of product, contract negotiating for good evaluation (data) and maintenance of product
Private players don't self-police typically and they rarely internalize the negative externalities of their offerings until forced to or shamed into it.

The City knows how to address problems with emerging technologies.

Scale	1	2	3	4	5	6	7
# of Respondents	4	11	10	19	3	1	0

What should the City do to make sure new technologies support San Francisco values?

Collaboration with the developers of emerging technologies.
Find ways to encourage their adoption and spread in San Francisco, while ensuring they do not make the public less safe.



In many cases, local regulation is hampered by state-level jurisdiction. In the case of transportation, San Francisco may most effectively be able to anticipate and regulate emerging mobility technologies through infrastructure and street design that prioritizes transit, biking and walking.
Establish an ethos of "agile regulation" - meaning establish a process by which established public policy officials (from the private sector) meet regularly with designated city officials (representing DPW, OEWD, DOT, and the Mayor's front office) to discuss (1) the state of the art of different tech that may be introduced at the city level; (2) the governmental agencies of interest; and (3) a real-time ability to inform codified/passed regulations with updates around use of the tech & data, so as to keep the reg's more iterative, and flex to the broader dynamics at play within a community.
come up with inclusive guidelines like this product must be usable by all residence even though with disability
Community input and innovation
Regulate them!!!
The MTA has done a pretty good job with the e-scooter permit application. Requires things like local hire, but sets reasonable expectations that small startups can meet. Might look at that for inspiration.
Mostly get out of the way. This is best exemplified by the scooter hysteria. This is a great new technology and the city's reaction has been way too authoritarian and conservative. Let new companies operate with reasonable regulations, not with knee-jerk heavy handed rules.
Tech needs to be equitable, sustainable and there has to be enough information to go around to make sure it can be regulated (months before it can be deployed).
Insulate the public from the potential for harm through strict, objective regulation based on a thorough understanding of emerging technology, the function of markets, and a premium placed on public safety, privacy, labor, accountability, and equity. Acknowledge and honor innovation that comes from existing communities. Let communities identify problems, leverage the voice of communities in the solutions to those problems, and allow existing communities to share in any profits generated from resulting technology. Discourage monopolies. Bottom up innovation.
Remember that each emerging technology can't solve every single challenge facing the City and therefore avoid piling on as many regulatory requirements as possible until the technologies and their business models can't succeed. Use more carrots than sticks to enable and promote the benefits you most desire.
We need a long to vision to support the engagement of the small business community and the emerging technologies which can assist them.
Invest in smart, holistic permitting frameworks and team that leverage the top talent from the public sector combined with private sector and academic guidance as well as national and international best practices.
Assess needs of existing stakeholders in SF, allow innovation and encourage self -regulation and compromise
Create the mechanisms (statute, legal, governance,) to ensure SF fosters new technologies and their uses for the benefit of San Franciscans.
Develop a clear and concise process to approve any technologies that are interested in operating on public infrastructure.
Public declaration of values. Codes of conduct. Testing zones for new technology.
Design a solution on 5 values marked above.
Have the values clearly articulated and require applicants for permits to respond to how they comply with them. Require applicants to address expectations for the technology in 5 years (one drone likely is not a problem, hundreds could be...). Applicant must explain the benefit/need for the technology for the citizens of SF (not just their profit margin). Applicants explain safeguards and how they will address/remunerate if there is a problem.
Create open forums and discussions for ongoing
Make sure that businesses know what those values are.
place restrictions on data collection and privacy
Encourage collaboration and pilot projects, and work with tech partners to facilitate growth.
What's needed is a flexible permitting framework that allows that allows the City and Industry to co-learn together how best to regulate emergent technologies.
Collaborate on shared priorities. Specifically for self-driving vehicles, opportunities exist around Vision Zero and Transit First!



Engaging with technology companies and collaboration with businesses
Include public comment and participation.
Fast and efficient processes that address concerns for all interested groups and offers fair solutions without any discrimination.
Put partnership, collaboration, and sharing first.
Make it easier to build and test these technologies
Demand collaboration and sharing as minimum requirements for any emerging mobility/technology provider to operate in SF.
1) Define the values. 2) Design a "scorecard" that measures progress against the values as new technologies move forward. 3) Provide scorecard guidelines that ensure new technologies are objectively evaluated.
Build an inclusive process
Expand the role of COIT beyond that of a "capital committee" to address some of these issues, or create a more broad-based body including a broader set of stakeholders with access to expertise and resources to shape a more thoughtful, inclusive approach to planning that can address some of these issues, in both a short-term and long-term way.
Workgroups and input from all communities especially those impacted by disability and poverty
Have a clear and transparent process that 1) defines what an emerging technology is, 2) the principles it should follow to support SF values and vision and 3) a method to either incentivize, require, or enforce behavior to align the technology with the values and vision.
Include San Francisco values and support small business
Develop strong collaboration and channels of communication between tech industry and the City.
first we'll need to agree on the meaning of "San Francisco values"
1. Define San Francisco values and document them. 2. Figure out a way to efficiently and clearly communicate prospective emerging technologies between and across departments. 3. Include a variety of subject matter experts in the conversation (leadership/strategy setters, IT, maintenance staff, financial staff, etc.) 4. Figure out a way to keep the public informed and maybe support these efforts. 5. Filter all new proposed emerging technologies through the established values for San Francisco. 6. Figure out a way to prioritize the order of technologies that are adopted. 7. Partner with other jurisdictions to share this process and help them create their own. 8. Build bargaining power across jurisdictions to bargain for these values to be built into the products that are available for governments to purchase.
Be inclusive and ensure that all applications promote equity and sustainability
I'm honestly not sure what the city should do yet.
Don't buy it if it doesn't...
Continue to communicate the values so technologist know what the SF needs for emerging technologies. Having a dialogue with innovators to provide insight into what problems needs to be solved can ensure tech meets the values of San Francisco
Provide technology solutions equitably across the City.
Ensure that its overall effects are democratizing ones. Also, ensure that any line about "including all stakeholders" in planning processes etc. aren't mere platitudes.

JULY 9 POST-SESSION RAW SURVEY RESULTS

How would you rate the meeting's success?

Scale	1	2	3	4	5	6	7
# of Respondents	0	0	0	1	4	5	5

What worked?

Bringing different people from different interests group into the same room.



Small groups, reporting, benefits pre populated
The structure of the workshop. It was very clear and well organized
The breakout sessions were effective.
Very structured steps- moderator was great
Competent facilitator, good pacing.
Breaking up into groups
the pacing, the discipline, the diversity of participants, great facilitation
Small group discussions, would like to see the outcome of those report outs shared with the entire group.
Small group conversations
Facilitator was great, exercise effective
Smaller groups. Great to have input and see the variety of perspectives.
Prepared structure, meaningful questions/sequence, and small groups each with a skilled facilitator/recorder. Lorna Shepherd was an excellent facilitator, well-prepared to lead the session and wrangle the herd of cats. I also liked taking out the "overhead" of small groups sitting.
The workshop was very well organized, the discourse that we had was incredibly beneficial and insightful
Being able to provide lots of input. Very efficient process!

For future meetings, how could we improve?

I realized this is the first meeting and there is a need to methodically bring such a diverse group of people together. I hope the next steps will bring more solution-oriented actions so there would be tangible results. Lastly, there is a need to consider people with disabilities and accommodations. It would be beneficial if the materials given to everyone is also in other accessible formats.
Have a mix of for profit, nonprofit, govt, resident in one group. I felt the for profit groups were well represented and so had a dominant voice (which is fair by the rules of engagement), but have a diverse group might have helped dull some of their very transparent agenda.
It was not provocative. I didn't learn anything new. I wasn't forced to see something in a new way, from a new perspective. All the answers were very similar because we weren't challenged. Perhaps it would be good to present some different scenarios and have us react to them. Something that gets us thinking and making trade offs.
The discussion topics were a bit broad and it was a difficult to reach consensus with a group of varied stakeholders.
Separate attendee groups by topic interest (transportation, payment, etc)
More comfortable chairs!
Apparently the City is employing Accella to install an integrated system for all the city departments so consider having them present with one person for each group.
I think you need to define the scope a little better - is this driven by the discussion about autonomous or other vehicles like the bikes and scooters or is it as broad as everything in the realm of emerging technology
It's difficult to get into the nitty gritty issues in a more broad discussion format would be good to try to figure out a way for those present to bring up details and examples of their concerns. Maybe this can happen in a future small group discussion.
Attempt to balance the small groups based upon who is in attendance/who they represent versus by chair
Define emerging technology.
Better space. Felt cramped and loud hard to hear.
Getting attendees to open seats toward the front of the room. A little more space for the small groups to work. It got pretty loud and hard to hear in the small groups...
I think it would be awesome if we could get a list of participants



No suggestions

Is there anything that wasn't discussed in the meeting that you would like to share?

There is a lot of research on the negative health impacts of some tech. But just as the tech itself is emerging, so are the studies (albeit much later). We need to have a forum to address health concerns, be it acute issues or chronic, and I feel there is no one department or body that is in charge, knowledgeable or in the loop on this one. So if the working group can tease out some of that, it can start the dialog in the least.
Nope. You covered it all.
Set firmer boundaries on what constitutes emerging tech - our group tended to wander into tangential subjects. A clearer understanding of the deliverables for the December report and what will be done with it once delivered.
The impact of technology on small business and test driving of proposed systems.
Great discussion for the time allowed.
see above
No
I really enjoyed the guided exercise. nothing more i can add
Not that I think of..
Not at this time
No

JULY 23 PRE-SESSION RAW SURVEY RESULTS

In your opinion, what is emerging technology?

New technologies that we need to learn to stay competitive with our customers
New ideas, programs, apps
Technology that is still in the beta and early adopter stage, i.e.that has not yet had mainstream adoption. Or is going through a major disruption in that the technology is in the process of a major reboot, or perhaps a new use altogether.
New forms of technology that is newly developed or being developed.
It is new technology that evolves the way that we do things.
Emerging technology powers physical or digital responses/solutions to problems/issues in a new and unfamiliar way that may, by design or accident, create conflicts with existing systems.
Emerging technology is technology that is new to the market and potentially still in prototyping or testing that has the potential and ability to change how markets are managed, operated, or viewed
Something in early adoption phase where the tech is mostly proven but the specific business model or use case needs to be worked out.
Technology that is not quite ready for release but needs to be planned for.
New business offerings in the city based on technology, typically using Apps
Its web 3.0, beyond social media, now people can use the internet for almost anything and everything, for better or for worse.
Technology that is still in the "early adopter" stage
I define emerging technology as any new use or tool that leverages technology.
A service or product not previously available to the public but derived from new devices and software.
Technology that is just beginning to get traction with the general public.



Weird question. Emerging. Technology.
An app for everything
I define emerging technologies as ones that have a social impact.
Something that did not exist before.
new/innovative, progressive developments in tech
To me, I think of emerging technology as a technological advancement. I believe emerging technology is happening every single day -- constantly updating and changing, or new tech that is being created, ideally making it more user friendly and easy to use and navigate.
New ways of using computers.
Technology that has the potential to dramatically change lives for the better
I talked with the steering committee directly about this, but briefly, as any technology that is not being used to its full potential
Emerging technology is any new thing that allows our lives to be better in some way—whether that be through accessing entertainment or services, communicating, or something else.
Any technology that is new or improved
Unsure of its potential global effect.

What is an example of emerging technology?

Big data, artificial intelligence, block chain
Sensing devices to note if someone has fallen
Autonomous Vehicles and AI solutions that make the law more accessible and more affordable
the use of robots
In retail there is a move to use technology that changes customers experience, for example automatically paying for items when you walk out (amazon)
Shared mobility devices enabled remotely
Phone applications for connecting modes of transportation with passengers, passenger routes, and payment, for example these are most commonly used with taxi and car or other transportation sharing operations (e.g., Zipcar, Yellow Cab, Lyft, Ford Go Bike, Bird)
In the metro landscape, AVs, video analytics, crowdsourced sensor data, block chain, distributed battery storage, gig economy platforms,
Using artificial intelligence enabled sensors to control traffic flow.
Uber, Lyft, Scooters, Airbnb, Driver-less Cars
Autonomous vehicles
Autonomous vehicles
car-share, ride-hail, bike-share
Driverless cars; e-bikes/scooters/skateboards
The Internet of things
Context?
Rental motorized scooters
An example is CRISPR
Drones
machine learning, artificial intelligence, block chain



Zero emission cars such as Tesla. Phone apps helping those with daily needs such as Handy. Virtual Reality. Robotics and engineering enhancements.
3D printers
3D printing, stem cell research, various apps that increase quality of life
smart meters, AI, wayfinding solutions for people who are blind,
Dahlia—the new, online housing portal for San Francisco
Self-operating vehicles
AI

Technology can have a positive impact on my community.

Scale	1	2	3	4	5	6	7
# of Respondents	0	0	1	0	2	8	20

Please share a story of how a technology has affected your life.

My work as an editor became devalued, as literacy and publishing experience began to take a back seat to computer skills.
Making it more efficient
Ability help babysit grandkids from 400 miles away with Skype and FaceTime.
Personally - use of FaceTime and Skype to keep in touch with family. Professionally - many benefits of technology for seniors to help manage their health and reduce isolation
Personally it has allowed me to be seen as essential in certain jobs that I have had because I have been able to use technology to create things or make something at work easier.
(Although it still needs a bit of refinement) the 311 app has made it much easier to report infrastructure issues on the fly.
In general, technology has completely changed how people are able to move throughout the city (from seamless payment systems, to different modal options, to having the information to better plan trips).
E-mail & websites have allowed me to communicate too many more people & agencies, on more topics, and on any day & time. Transit info. Options --including paratransit -- have allowed me to continue to travel easily and widely throughout Bay Area.
The emergence of devices, apps and platforms that allow me to easily communicate with my family, friends, and those with whom I've lost touch has both cemented old bonds and encouraged new ones.
Technology has made it easier for me to communicate with my staff with apps such as Group Me, which allow us to share information quickly and efficiently.
My first computer when I was 10 - fewer friends but skills later in life
I've been in tech nearly my adult career
We have a network of 350 public facing surveillance cameras using the edge computing framework which is responsible for over 300 arrests. We also integrated pedestrian counters in some of the sensors to increase the functionality of the system. We have also deployed 25 "smart" iot trash receptacles.
Uber/Lyft Drivers; thousands come in from out of the city, ignore traffic laws, drive like idiots, park in private places. Scooters flooded the city and were dumped by riders willy nilly. While using the scooters the riders rocketed down sidewalks ignoring pedestrians and the elderly. Airbnb took many small rentals off the market and they do not pay hotel taxes etc.
I use social media for everything.
Technology makes my life easier in many different ways - turning off and on lights, getting up to date information on the weather, checking on my second home, communicating with my friends and co-workers, etc.



Technology has enabled me to travel and explore communities much easier and cheaper than a printed map or travel agent. From travel blogs to transit apps, it's much less intimidating or overwhelming due to the accessibility of real-time information and payment options when travelling to a different neighborhood, city, country, etc. as a result of technology.
we are in the forefront of leveraging tech to distribute social services
Computers are probably the technology that has affected my life the most. Without it, I would not have been able to receive the education that I have.
Got to develop and lead the City of SF's open data efforts to bring more people into the public process!
Can't imagine life without my iPhone! Thanks to the increasing computing capabilities of smartphones, they now provide a variety of uses beyond traditional phone calls (emails, photos, videos, games, GPS, music, e-reader, micro-payments, check-in/ID authentication, etc.). You can extend the capabilities of your phone simply by downloading an app. I was recently on an international trip and stayed in an Airbnb condo ("sharing economy" enabled by tech) and used WhatsApp to communicate for free w/friends and relatives in the US. Tech has reduced friction in so many areas of my life, allowing me to be more productive.
By using social platforms on the internet, specifically Facebook, Google+ and Google Hangouts, I am able to stay in contact with family and friends that live outside of the US -- for free.
I am able to use my phone to take care of emails and work away from the office
As a person with a disability, I rely on technology every day in order to provide me an improved level of physical access (especially smart/AI technologies)
By learning to build software, I was able to secure a job and negotiate for a salary three time that what I was earning before. I was able to pay my rent and do a lot of community volunteering to help others learn the same skills and find jobs.

What values should the City prioritize when considering emerging technologies? Please select up to 5 values.

Value	# of Respondents
Accessibility	20
Collaboration	11
Accountability	14
Security	16
Efficiency	10
Ethics	8
Equity	16
Labor Standards + Fair Wages	7
Privacy	10
Public Safety	13
Sustainability	14
Return on social benefits	1
Properly regulated	1
Unintended consequences mitigated	1



Informing people and training	1
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What opportunities or benefits do you see with emerging technologies?

A project of filming homeless people and posting their stories on social media has brought about some family reunions. I consider this a good use of technology.
help us to be more efficient with limited resources
Allowing people to take charge of more aspects of their lives.
Ability to help people age in place successfully, as well as maintain healthier living across the lifespan
Making certain work safer for employees
More efficient, sustainable and personalized responses to communications, transportation, mobility issues.
The major opportunities for any emerging technology is to make daily life easier and more seamless.
Transportation that is easier to access and to use
I'm still trying to understand the thinking behind the self-operating vehicle. From what I know about these vehicles is that a person will have the ability to complete work while waiting in traffic, or have the vehicle park itself if you're late to a meeting.
We have the opportunity to redesign our neighborhoods and our cities if we collaborate with emerging technologies to optimize their impact on our lives.
Not sure
prioritizing syringe cleanup crews using predictive analytics
Rethinking the way the CCSF delivers services / engages residents so we can do totally new things rather than just improve the efficiency of the old processes.
Better, more efficient deployment of City assets and greater accountability.
None. The technologies are so poorly regulated that almost all impacts are negative.
There will be few benefits unless the costs are addressed.
Opportunity to shape them to benefit the community at large
Emerging technologies can make the world more accessible and enhance the lives of the majority of society by enabling us/ them to have experiences they may not have had or known about without emerging technologies. Ex/ car-sharing enables those who don't own a car to have access to experiences that may require a car)
AI to supplement case management
Emerging technologies have the opportunity to literally save lives. They can also significantly improve the quality of life for people and increase accessibility to necessary health, education, and other social services
Safety, more options
potential to disrupt entire industries in a positive way (cheaper, faster, better); also potential for significant (economic/social/political) positive impact on a global scale; tech can be a great equalizer opening up opportunities for all
I think the most obvious benefit of emerging technologies involves the simple fact that it ultimately makes life easier and more efficient for humans. But we're also learning that it cannot only benefit a human but it can also benefit the environment and natural world that we live in. Emerging technologies are finding cures to diseases or are helping our medical field immensely, they are helping us live a greener life, and they are also helping us connect with those across the world for free.
Making K-12 Education cheaper and better with Raspberry Pi
Can change people's lives for the better -- could be game changers - nsave lives, etc.
Emerging technologies are underutilized, by people with disabilities, who may have the most to gain by engaging with the technology,
If we are smart about emerging technologies, we can build an ecosystem that will unite and support most, if not all, San Franciscans.
New faster ways of using data to solve complex problems



What issues or concerns do you have about emerging technologies?

Face-to-face communication and connections with neighbors continue to shrivel, driving out small retail that acts as glue in communities. I live in fear of the scooters on sidewalks.
They are investments with uncertain benefits and public impacts
Often unintended consequences of new technologies
Privacy issues, data tracking of peoples' movements and activities
tech replacing people in the workforce
When new technologies intersect obliquely with existing systems, they may cause conflicts with the systems infrastructure that conflict with the functionality. Without socialized 'codes of conduct' or 'rules of the road' or anticipatory regulations, new technologies can encroach in a negative way on existing systems that remain functional for many.
Emerging technologies imply something that is new and prototyping or testing, these technologies are commonly more expensive during these phases and initial market adoption. This means that there are/should be equity concerns during the roll out of any emerging technology, noting that most of these technologies end up positively impacting those who can afford them and not society as a whole.
Another concern with emerging technologies is they often provide a lot of user data or utilize user data in a new way, which bring up a multitude of other concerns, such as data privacy, data rights, targeted advertising, and liability of data leaks among others. Most of the above are self-explanatory except for targeted advertising, essentially the notion that too much targeted advertising will 1) facilitate social stereo types and 2) decrease the opportunities to learn and grow from new products and ideas that may not necessarily align with historical search or shopping patterns of an individual.
Safety precautions important to all but not thought of by the inventors/ entrepreneurs.
With new technology making work so accessible, I'm afraid that people will forget how to enjoy life outside of work.
There is a lot of money behind some of these new technologies and often the ROI demanded by many investors is not aligned with the public good.
It replaces the need to use humans and therefore takes away jobs in my opinion.
benefits reaped only by for profit enterprise
making sure they integrate with the city's existing infrastructure & processes, making sure they increase social equity rather than erode it, does the city have the staff capacity to effectively manage it without losing control or stifling innovation, making sure we don't privatize the gain while socializing the risks, security
Cybersecurity threats hacking into the system and extracting data.
Uber/Lyft Drivers; thousands come in from out of the city, ignore traffic laws, drive like idiots, park in private places. Scooters flooded the city and were dumped by riders willy nilly. While using the scooters the riders rocketed down sidewalks ignoring pedestrians and the elderly. AirBnb took many small rentals off the market and they do not pay hotel taxes etc.
My #1 issue is that a lot of emerging technology companies aren't accountable for their actions. In the gig/shared/bread crumbs economy, the users become the product so emerging technology companies exploit them and don't take responsibility for the effects of their business model on cities and people.
Due to the very slow movement of governments in general and SF in particular, the emerging technology of this area (see motorized scooters and Uber/Lyft as just two examples) have taken the attitude of "move forward, become widespread as fast as you can, deal with the fallout, force the BOS to deal with you in Internet Time". This will remain true forever as long as we have these meetings that take 6 months to decide what to do. I'm sorry, but this is just an example.
1) Equity 2) Fake benefits, like ride-hailing... Are more (and newer options) that much better for society than improving previous taxi options? 3) Costs of development may outweigh benefit to society.
income inequality
I am concerned that our clients will not have good access to these technologies due to lack of accessibility/education



Lack of oversight, coordination with government.
On the flip side, tech can also widen the digital divide between the haves and have-nots. Also, as with anything, the potential for misuse/abuse exists. A recent example: the spreading of fake news via social media.
Right now living in SF, I've observed that one of the major concerns of emerging technologies would be the taking away of jobs and kicking people out -- gentrification. This is leading to a higher rate of homelessness and/or a major struggle to live in a big happening city like SF. Same exact thing is happening in Seattle and other major cities in our country. Emerging technologies are coming up with quicker and easier ways to benefit our lives, thus kicking out the older versions that we've used for so long. Emerging technologies has lots of benefits but also just as many concerns.
Nothing with the technology - mostly with resistance to change.
The people who need it most, will not have access to these technologies due to the cost or because they will not know they exist
As I mentioned to the steering committee, you can't "emerge" with technology until we as a city have made a commitment to meeting baseline ICT accessibility requirements needed to support that technology
Sometimes the focus tends to be on technologies that are really only available to those with the right devices, funding, and knowledge.
Does new technology deepen social and economic inequality?

The City knows how to address problems with emerging technologies.

Scale	1	2	3	4	5	6	7
# of Respondents	5	7	5	12	1	0	0

What should the City do to make sure new technologies support San Francisco values?

Stop taking so much money from big tech donors.
Safety First. Then, analyze how emerging technologies affect ALL, not just the able-bodied single adults who develop or market new technologies. Children, adults with babies in tow, seniors, groups of school kids, people with disabilities, those who do not read or understand English ALL must be considered when bringing online to market.
Work with all sectors of society
Regulate all new technology offerings BEFORE they hit the streets.
Have a "Tiger Team" inside of the government that looks ahead at technology that is emerging and forces the BOS and other city organizations to do something about them in "Internet Time" versus "San Francisco Government" time. One definition of crazy is doing the same thing more than once and expecting different results. The city government continues to work at a speed that causes outside organizations to force issues by deploying first and then asking for forgiveness. This will continue until this changes. You really should have a group of experts deal with this. Input from the community can for the most part all be done online. People that want to comment don't have to appear in person. I could go on and on. Change the way you do business - you must in order to deal with the "emerging technologies" ahead. San Francisco and the bay area are full of start-ups - or haven't you noticed?
Nothing
The City should monitor and have regulations on testing new technologies in the City. This way the City can confirm that these technologies support SF values and ensure that while in testing technologies do not danger the public or impact City policy too much. For example, the various Scooter companies, while there are now permits and regulations on them when they were prototyping and testing there was no forward thinking policy making to ensure that riders are safe or that these scooters would not block public infrastructure (e.g., sidewalks).
Adopt a more data driven approach and define outcomes rather than trying to regulate the implementation
Control and monitor the infrastructure the technologies have to use.



Technology is here to serve the people. Government is to curb the excesses of capitalism. City Hall has been captured and neutered so I'm not sure it can perform its functions and duties appropriately. It's up to the people.
Enforce a requirement to all employees working at a new and old technology company to complete a certain amount of hours volunteering somewhere that helps ours working class to low income and homeless folks in the city. A few tech companies already do but I think this should be a requirement for all tech companies. By making this a requirement, those who work in the tech field in SF will truly be able to not only see who their neighbors are but will become better informed about what is going in our city right now. Having experienced exactly this with our own volunteers, I know that by doing this, they will more likely become more inclined to make change, have a voice, and bring that to their company.
Incorporate them into its ICT plan
Emerging technology developers should be required to work with the City during product and business model development to plan for appropriate integration into public realm systems.
Engagement. San Francisco should reach out to companies headquartered in the city to bring the cities values into offices, and to invite employees to engage with the neighborhoods where they work.
engage with user groups/community vetting process
You can start by utilizing modern tools internally.
Test these out with the proposed users for feedback. Assess the results of the these technologies regularly to make sure they are having the intended results
Make the new technologies are accessible to all.
Create a legislative and regulatory process that requires collaboration before an industry and existing rules are "disrupted".
consult with San Francisco residents of all demographic strata
Advocate on the state and federal level to hold companies accountable.
Collaborate with new emerging technology providers from the start of new product development. Hold them accountable for costs of testing in public spaces and benefits to society. Make a transparent grading sheets to qualify/ disqualify emerging technologies based on SF values PRIOR to launch of the technology.
I am not sure, but I look forward to attending the meeting and hearing more ideas.
encourage civic discourse in a 'safe' online/offline space; educate/engage those impacted by the tech; clearly define what those 'SF values' are and make sure they reflect those of its residents; proactive approach to tech as opposed to a reactive one; establish clear accountability and a measurement framework to assess "actual" long-term impact (so many technologies make big promises but don't deliver when it comes to sustainable long-term economic/social impact)
Not sure
Get input and have focus groups that involve all kinds of people. Diversity and inclusion

JULY 23 POST-SESSION RAW SURVEY RESULTS

How would you rate the meeting's success?

Scale	1	2	3	4	5	6	7
# of Respondents	0	0	5	1	2	6	0

What worked?

Small group brainstorming sessions, having a great representation of all public and private stakeholders



Break-out sessions were helpful and productive, facilitation was smooth, and participants were engaged.
Very appealing concept that resulted in a lot of attendees from diverse industries
brainstorming in small groups
Small groups
I felt that breaking into the smaller groups was both collaborative and an effective way of getting participation from more people. Our facilitator did a great job of leading when necessary but mostly transcribing what we said and staying out of the groups way.
Well-thought out categories & principles
The facilitators of breakout groups were good.
Good ideas toward improving the impact of technology.
It was a good discussion, I'm just really curious how you will use the workshop or if you are just checking a box. Small group facilitators worked well.
facilitation in the small groups was good
Here other community members perspectives
Relevant questions that were asked

For future meetings, how could we improve?

Sort by public and city staff? Lots of hot air and talking past each other from the members of the public in my breakout group. As a city employee it would have been nice to have a more productive convo with my peers, vs. the ham sandwiches from across SF.
Meetings during the work day are easier to attend. The texting function didn't work for me.
Narrow the scope of "emerging technologies" and engage high-level City staff.
More focused prompts to generate a more usable set of information from the break out sessions - I can't tell what will come of that information as it seemed lofty. Perhaps prompts for more concrete or more out of the box ideas, priorities, or prompts/hypothetical scenarios that create intentional tension.
focusing either the meeting or each group on more specific issues. For example, now that we thought about the overall goal for the city in balancing emerging tech with the needs of citizens. Another meeting could have groups broken up by topic: mobility, transparency, affordability, housing, homelessness, drugs on the street, etc.
More diverse set of stakeholders
Anxious to see what comes next.
1] more time ; 2] mid-afternoon 3] better ventilation 4] spread out topic groups more--too often too many voices from nearby groups made it difficult to hear our own participants
Work harder to get representatives from Bayview and underserved districts. The affluent districts were over represented. Work harder to get a broader diversity of ages. The participants were too tightly clustered around generatively age. Not enough seniors and youth.
A little more focus. Maybe more emphasis on "how" to better manage emerging technology. Without the "how" it all could be for nothing.
Please have more diverse attendees across different communities, sectors, and interests, especially from the private sector



and people of color, which were both lacking. Also, please try to mix up the small groups, some of the small groups all came from the same sector and it didn't call for a good discussion. It would also be helpful to have had more time for introductions as I didn't feel like I understood what people's working knowledge was when we just jumped into the exercise.
Having a few more people in the groups would have provided for more differing opinions.
Need larger space
Answers opinions were too broad and not enough time to hone in on.

Is there anything that wasn't discussed in the meeting that you would like to share?

I think our group kept getting caught up on "emerging technology in mobility" vs. "SF as the tech industry hotbed and what that means for transportation and mobility."
Nope!
Discuss how policy at the local, state and federal levels intersect emerging technology (positively/negatively). How can we adapt and implement enforceable guidelines while also remaining flexible and adaptable.
Yes - what is local government doing to solicit the help of technology creators/emerging technology to solve some of its highest priority needs or needs of the communities it represents?
I see the next 10 years as a one-time opportunity to rethink SF, and to use emerging technologies to create a livable, green, sustainable environment for its residents and business owners.
Urban Design and Land Use considerations
Nope
Pro-active/ pre-emptive enforcement considerations need be addressed; outreach to Children's Council about including childcare professionals and SFUSD about elementary grades' teacher[s]. ?Maybe an online presentation in languages other than English, so non-English speaking professionals & advocates can equally participate?
What the new Mayor's priorities will be regarding tech, tech companies and the effects of tech rollouts on San Francisco community streets. We are not test subjects and it is not OK to simply roll out ANY technology that tracks use patterns, impedes the thoroughfare or causes congestion or quality of life degradation for the citizens of San Francisco.
How to do it, how to better manage technology. The city can but does not get ahead of these things and they must do so. City is far to reactive and not at all Proactive as they should be. Look, many years on, and the city still does not have a handle on Uber, Lyft, and/or Airbnb.
Emphasis on accountability of companies to not break the rules and to collaborate with cities before deploying new business models.
It's important to have more representatives of the affected companies present.
No
City's current efforts in dealing with emerging technologies