



King County
REGIONAL
E-911
STRATEGIC PLAN

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Leadership Group

September 29, 2017

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Today's Agenda

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- **Welcome & Introductions**
- Strategic Plan Process Update
 - Roster
 - Recent Activity
 - Decision Timeline
 - Issues Overview
- Finance Preliminary Recommendations
 - Overview
 - Principles
 - Recommendations
- Technology & Operations Recommendations
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- System Architecture — Decision
- Governance Preliminary Recommendations
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- Follow-up Items / Next Steps



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June 20, 2017 Meeting Notes Approval



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King County Ordinance #18139

King County Regional E-911
Strategic Plan
Committee

“Address the planning
processes and
questions needed to:

1. **Integrate with the state’s E911 system** and the **responsibilities of local jurisdictions** in their delivery of E-911 dispatch services;
2. Develop a **ten-year technology investment strategy** for the regional King County E-911 system with tactics and a process for adapting to evolving technology and service conditions;
3. Develop a **ten-year sustainable financial plan** for the regional King County E-911 system with tactics and a process for adapting to evolving financial conditions; and
4. Define an **ongoing decision making or governance structure** for implementing and achieving the vision and goals of the regional King County E-911 system, including a conflict resolution process.”




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Scoping Recommendations





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Vision • Mission • Core Services

(AFFIRMED: JUNE 20)

Vision (from scoping):

"King County's Regional E911 System will be among the best in the country in terms of:

- Rapid and effective routing of requests for service;
- Efficient use of public resources;
- Effective deployment of evolving technology
- Adherence to the guiding principles"

Mission:

The Regional E911 System provides an emergency communications link between the people of King County and appropriate public safety responders.



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E911 PROGRAM OFFICE

Core Services

(APPROVED: 6/20*)

*Councilmember Robertson reserved the right to revisit Core Services later in the process

- **Network, System, & Equipment**
Call Delivery from State 911 network to PSAPs; E911 phone maps; location data; GIS data; local network, security, and trunking.
- **Operations & Maintenance**
Hardware for network, security, and telephony equipment; asset tracking; software licensing, updates, upgrades, fixes; vendor and PSAP coordination; transferring funds to PSAP for technical staff, PSAP operations, and equipment.
- **Project & Vendor Management**
Project planning, budget and management; vendor delivery oversight and compliance.
- **System Access & Education**
Social marketing strategies; education campaigns, events, training and materials; language interpretation services.
- **Regional Leadership**
Local, state, and national associations and committees; legislative efforts; new technology and trends.
- **Administration & Finance**
Program, vendor, and asset management; policies; staffing; data analysis; communications; budget; finance; strategic planning.



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From Scoping

LEADERSHIP DIRECTION: Guiding Principles & Goals

Guiding Principles

- **Process**
 - Transparency
 - Project Management Principles
 - Collaboration
 - Predictability
 - Advocacy
 - Inclusion
- **Standards**
 - National Best Practices
 - Performance Metrics
 - Continuous Improvement
- **Goals**
 - No Request Lost
 - Prompt Response
 - Seamless System-wide Technology
 - Meet or Exceed Industry Standards
 - Equity
 - Secure, Resilient & Survivable
- **Finances**
 - Fiscal Responsibility
 - Financial Sustainability
 - Cost Effective





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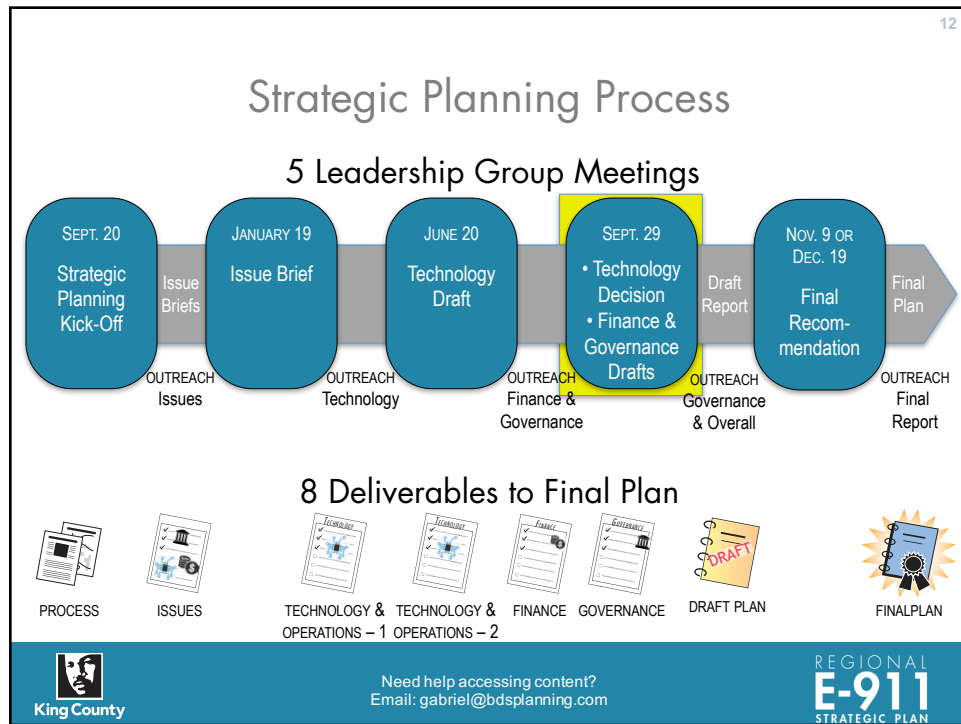
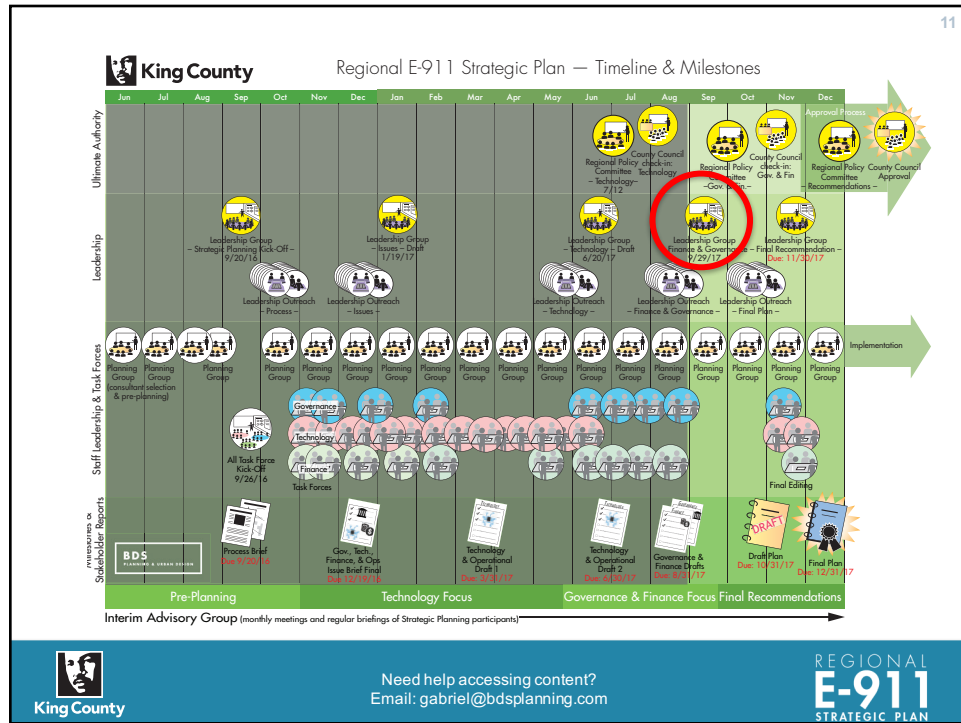
Procedures

Guiding Principles <ul style="list-style-type: none"> • Equitable resources & opportunity • Respect • Transparency • Accountability • Champions for this effort • Priorities • Action & Change 	Ground Rules <ul style="list-style-type: none"> • Everyone's voice counts <ul style="list-style-type: none"> – Take turns – Each perspective is valid – Listen respectfully – Questions are okay • Forward movement • Positive recommendations 	Responsibilities <ul style="list-style-type: none"> • Participate (no alternates) • Positive • Perspective • Acknowledge conflicts of interest • Leverage resources • Advocate • Knowledge • Share Information 	Working Consensus <ul style="list-style-type: none"> • Everyone gets their say • Recommendations you can "live with" • If we must vote: 80% = consensus (in attendance)
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PG Responsibilities on LG Outreach

PG Member	LG Member(s)
Lora Ueland	Tom Orr
Marilynne Beard	Tola Marts, Denis Law, Liz Reynolds
Chad Barnes	Jennifer Robertson
Patti Cole-Tindall	John Urquhart
Stacey Jehlik	Bruce Harrell, Lorena Gonzalez
Lise Kaye	Claudia Balducci, Reagan Dunn, Kathy Lambert
Tim Osgood	Tim Osgood
Diane Carlson	Dow Constantine
Kathy Lombardo	Tom Koney
Brian Smith	Brian Maxey
Chris Wilson	Erik Scairpon



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PG Task Force Representatives

PG Member	Finance	Governance	T&O
Lora Ueland	Tatyana Bogush-Stakhov	Self	Jess Nelson
Marilynne Beard	Self	Jane Christenson	Ron Tiedeman
Chad Barnes	Krystal Hackmeister	Self	Chelo Picardal
Patti Cole-Tindall	Jason King	Self	Jessica Sullivan
Stacey Jehlik	Jennifer DeVore	Self	Greg Hough
Lise Kaye	Tom Goff	April Sanders	Krista Camenzind
Tim Osgood	Self	N/A	Self
Diane Carlson	Tom Koney	Self	Bill Kehoe A. Barak
Kathy Lombardo	Kate Davis	Self	Deb Flewelling
Brian Smith	Tom Walsh	Self	Russ St. Meyers
Chris Wilson	Tara Murker	Kathy Baskin	Micki Singer



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Scope of Work



Process Brief (**✓ done**)



Draft Recommendations:
Finance (**✓ – at Planning Group**)



Issue Brief: (**✓ done**)

- Governance
- Finance
- Technology & Operations



Draft Recommendations:
Governance (**✓ – at Planning Group**)



1st Draft Recommendations:
Technology & Operations
(**✓ done**)



Draft Strategic Plan (Oct.)



Final Recommendations:
Technology & Operations
(**✓ done**)



Final Strategic Plan (Dec.)



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Upcoming Leadership Decisions

BLUE = **Planning Group**: Role – **Recommend** to Leadership Group

RED = **Leadership Group**: Role – **Decide** on recommendation to King County Council

KC Regional E-911 Critical Decision Points	June 6/12 6/20	Jul 7/17	Aug 8/21	Sept 9/18 9/29	Oct 10/16	Nov 11/9	Dec 12/19
Regional System							
Vision	DONE						
Mission	DONE						
Core Services	DONE (tentative)						
Technology & Operations							
Architectural Options (w/ costs)	Discuss	Discuss	Recommend	Discuss Decide			
NG911 Features & Functions (2017-18) Program Office / IAG (Decisions in progress – not a part of strategic planning)							
Finance							
Finance Principles	DONE						
Financial Plan (10-year)			Discuss	Discuss	Recommend	Decide	
Escrow Distribution Formula (2017-2018) Program Office / IAG (Decisions in progress – not a part of strategic planning)							
Governance							
Overall Governing Body (principles, composition, authority, voting, etc.)	Discuss Discuss	Discuss	Preliminary Recommend	Discuss	Recommend	Decide	
Boards/Subcommittees Structure (Technology & Operations, Finance)	Discuss			Discuss	Recommend	Decide	
Implementation							
Decision Structure (funding priorities; NG 911 capabilities; etc.)		Discuss	Discuss	Discuss	Recommend	Decide	
Strategic Plan							
Final Plan					Recommend	Decide	



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Technology & Operations Principles

(APPROVED: 1/19)

- **PUBLIC SAFETY:** We should ensure service exists that protects the public's safety above all else
- **CAPACITY:** The capacity of the system should meet demand at all times without service interruption
- **FAIR AND EQUITABLE:** We should seek to provide fair and equitable access so that all communities can receive and perceive value
- **SECURITY:** All systems and solutions will need to meet the minimum level of security defined
- **AVAILABILITY:** Solutions should be available at all times without service interruption
- **COST EFFECTIVE:** Financial decisions should be based on the most cost-effective solutions consistent with documented needs
- **CONVERGENCE:** We should converge toward common solutions, approaches and standards
- **INTEROPERABILITY:** Software and hardware should conform to defined standards that promote interoperability for data, applications and technology



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Finance Principles

(APPROVED: 6/20)

- **FISCAL RESPONSIBILITY:** The E911 system must rely on clearly articulated financial management policies that reflect responsible stewardship of E911 resources, and ensure that they are used for their intended purposes. The system must be open and transparent about all the E911 finances, making financial information available to all stakeholders, and build trust and collaboration among partners.
- **FISCAL SUSTAINABILITY:** The E911 system should make effective and efficient use of resources, achieve E911 objectives, fulfill commitments to stakeholders, and prepare for long-term fiscal sustainability. Financial sustainability of E911 revenues is important to the services delivered by both the King County Program Office and PSAPs.
- **COST EFFECTIVE:** The E911 system should invest and spend available resources in building and operating a more efficient E911 system. Investments in the E911 system need to be effective and reinforce broader program goals.



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Governance Principles

(COMING TODAY)



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Finance Preview

- Current level of spending is not sustainable with projected revenues
- Fund balance will not go negative until 2023
- Difference between alternative system architecture cost estimates is not enough to change the overall system's financial picture (< \$5 million difference in \$280 million)
- Fund balance will go negative at a similar time regardless of which architectural alternative is deployed, and so broader finance issues must be addressed either way
- 911 Program Office and PSAPs should share in operations efficiencies
- Explore using some of the escrow balance in system upgrades
- A sustainable revenue source must be deployed for long-term system viability
- Planning Group recommendations in October



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Technology & Operations Preview

- 45 meetings between the Task Force and its five sub-committees
- 2 viable alternatives for system architecture and implementation timeline
- “Distributed” & “Platform” both meet all Principles
- Platform exceeds several of the principles more than Distributed
- 10-year cost for Distributed appears to be up to \$5 million less
- Thorough analysis of advantages and disadvantages
- Task Force: 6 of 10 avored Platform; 4 preferred Distributed
- Planning Group recommend Platform on a roll-call vote of 6-1 (86%)
- 2020 before a vendor is selected and deployment of new architecture begins



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Governance Preview

- Unanimous agreement
- Governing board should be advisory to the 911 program office
- 12 voting positions (one for each PSAP)
- Operate by consensus as much as possible.
- Two-step voting process:
40% of those present and 60% of current call volume
- Specific process for decisions and appeals
- Further work on roles and responsibilities is scheduled shortly



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Finance Task Force

Draft Recommendations



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Summary of Key Recommendations

- Current levels of spending are not sustainable
- PSAPs and the Program Office must share in the responsibility to cut costs to more sustainable levels.
 - Put in place the most operationally efficient staffing levels
 - Work with PSAPs to lower escrow distributions to more financially sustainable levels.
 - Continue to improve financial policies, processes and transparency.
- Revenues are not keeping pace with inflation or needed expenses
- Revenue reforms are needed.
 - Demonstrating that the most cost-efficient and accountable spending is in place.
 - Deliver options to the King County Council to find a more adequate, resilient revenue solution.



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System Architecture Costs



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- Better financial planning shows fiscal crisis in 2023, not 2018
- ESI NetII and new system architecture may improve the long run financial position
- Neither system architecture choice presents a large material difference in the overall financial picture

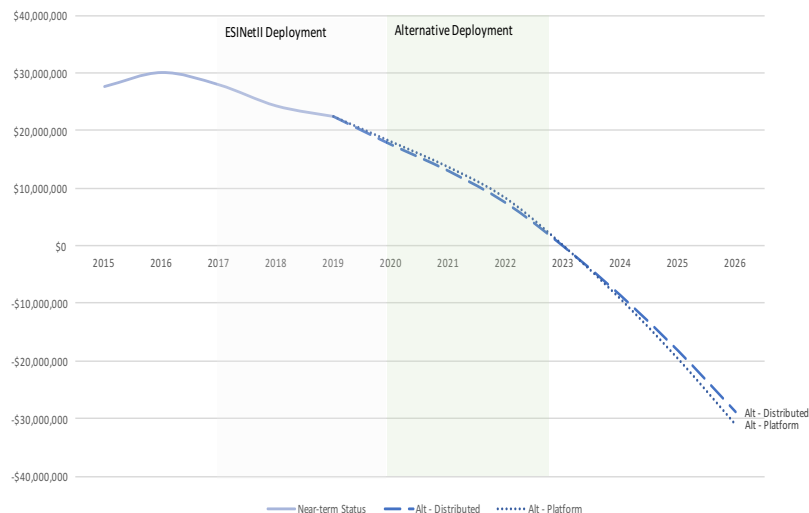


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Comparisons of Alternatives



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Recommendation:

Evaluate and capture potential savings in the following areas of financial uncertainty within the next year



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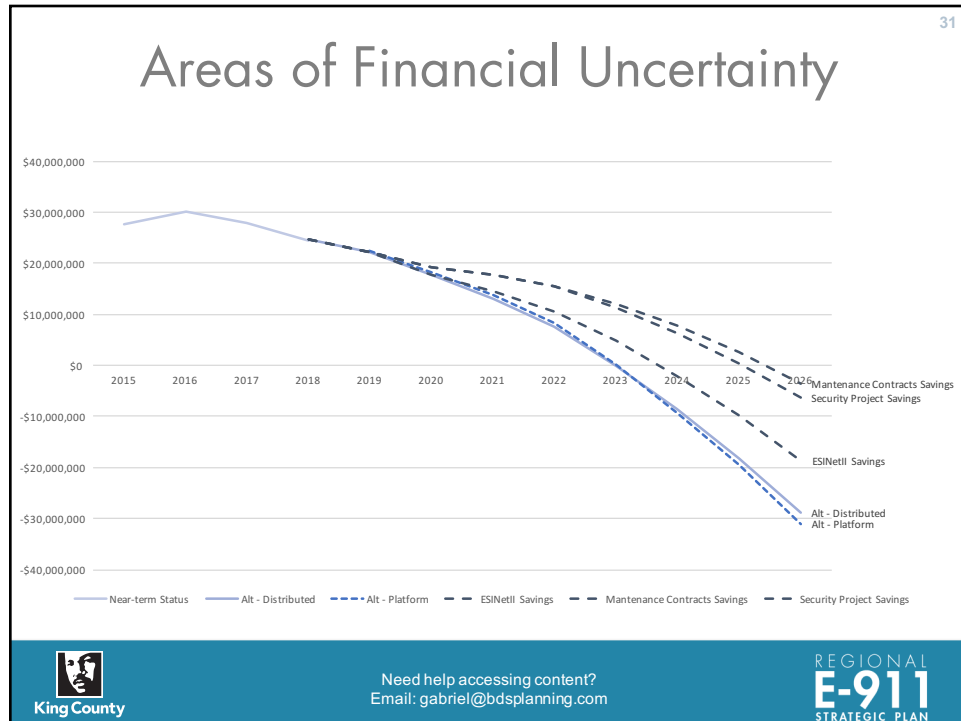
Areas of Financial Uncertainty

- EISNetII and New System (Distributed or Platform) bring new capabilities and vendors that may help reduce costs ... MAYBE
- Network Contract Costs
- Security Projects
- Maintenance Contract Costs



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Recommendation:

Take action in the following
areas of financial opportunity
within the next year

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Areas of Financial Opportunity

- Program Office and PSAPs partner on costs-savings, funding, and tax reforms
- PSAP Revenue Sharing
- Program Office - PSAP FTE Efficiencies
- Capital Funding – Escrow Assessment (one time)
- Tax Reform



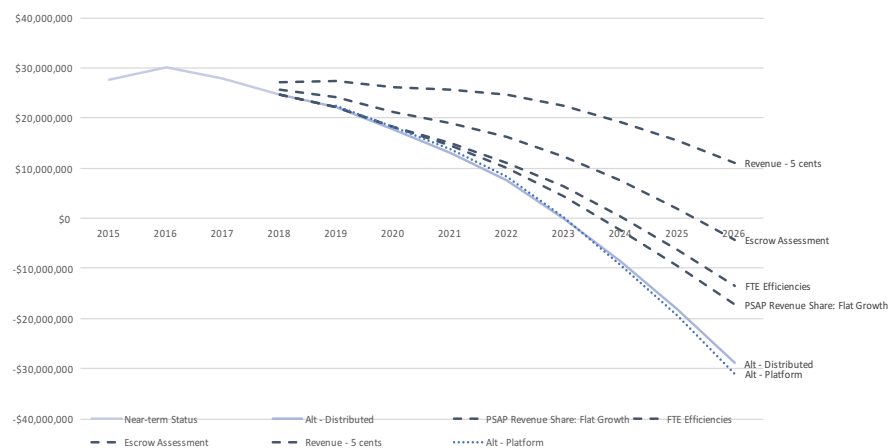
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Areas of Financial Opportunity

Comparison of Ending Fund Balances: Areas of Financial Opportunity



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Way Forward

Immediate Action is Needed



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Recommendation:
Continue to create a set of
defined financial policies
and procedures.



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Recommended Actions (many are in place or underway)

- Create a set E911 Financial Management Policies.
- Create reserve accounts to fully fund future capital projects.
- Include project management staff as part of capital projects.
- Create better oversight of the implementation of capital projects.
- Revise PSAP escrow policies to ensure timely reimbursements for eligible expenses.
- Work with PSAPs to develop a comprehensive escrow program and policies that govern reimbursements and increase accountability.
- Work with PSAPs to agree upon a basis for allocating tax revenue.
- Engage the state in tax revenue audits.
- Create comprehensive and transparent dashboard and annual financial reporting documentation, performance metrics,



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Architectural Principles Summarized

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Principle	Principle Statement
Security	All systems and solutions will need to meet <u>at least</u> (added by LG) the minimum level of security defined.
Capacity	The capacity of the system should be designed to meet peak demands without service interruption.
Availability	Solutions should be available at all times without service interruption.
Interoperability	Software and hardware should conform to defined standards that promote interoperability for data, applications and technology.
Cost Effectiveness	Financial decisions should be based on the most cost-effective solutions consistent with documented needs.
Fair and Equitable	We should seek to provide a fair and equitable access so that all communities can receive and perceive value.
Convergence	We should converge toward common solutions, approaches and standards
Public Safety	We should ensure service exists that protects the public's safety above all else.



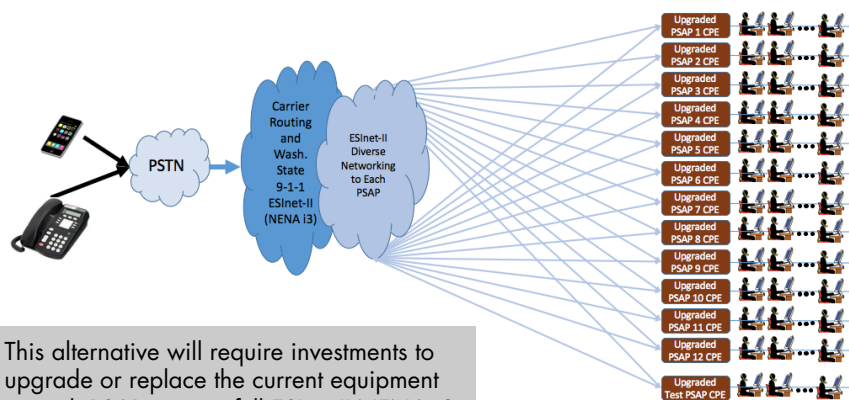
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Architectural Alternative 1:

Distributed System Architecture

with Washington ESInet-II Diverse-path Networking and
Full NENA i3 Capabilities in the Customer Premise Equipment at each PSAP

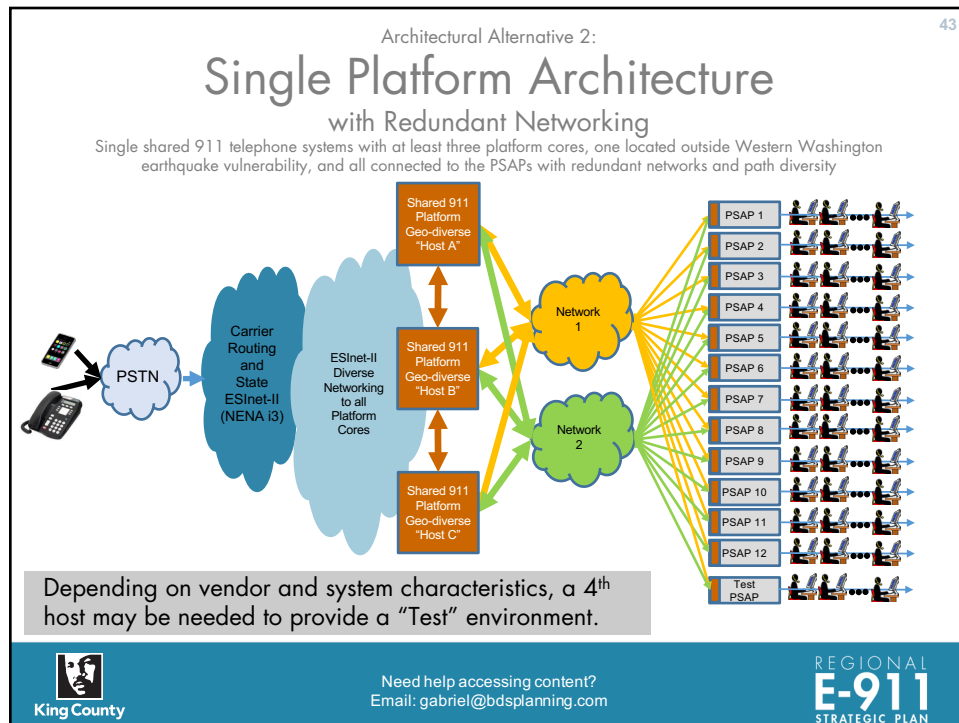


This alternative will require investments to upgrade or replace the current equipment at each PSAP to meet full ESInet-II NENA i3 standards and NG911 capabilities.



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Principle Alignment

Principle	Alternative 1: Distributed Architecture	Alternative 2: Single Platform
Public Safety	✓+	✓+
Security	✓	✓+
Fair and Equitable	✓	✓+
Cost Effective	✓+	✓
Capacity	✓	✓+
Availability	✓+	✓+
Interoperability	✓	✓+
Convergence	✓	✓+

✓ meets principle ✓+ exceeds principle or meets it better than the other alternative

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Top 3 Advantages & Disadvantages

	Alternative 1: Distributed Architecture	Alternative 2: Single Platform
Advantages	<ul style="list-style-type: none"> • PSAP Flexibility • Self-Sufficient PSAPs • Network Cost Savings 	<ul style="list-style-type: none"> • Increased Security • Ease of System Management • Increased Resiliency
Disadvantages	<ul style="list-style-type: none"> • Increased Security Complexity • Routine Maintenance Challenges • Duplicated System Costs 	<ul style="list-style-type: none"> • Higher Network Costs • Higher Impacts from Platform Failure • Maintenance and Troubleshooting Challenges



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Cost Comparison

	Alt 1 – Distributed Architecture	Alt 2 – Single Platform
One-Time System Implementation Costs (CAPEX) ¹	\$8,181,217	\$7,337,930
Annual System Maintenance Costs (OPEX) – 1 st year ¹	\$385,846	\$348,899
10-year OPEX (incl. refresh x 2) ¹	\$5,829,008	\$5,246,374
Annual Networking Costs ²	\$0	\$700,000
10-year Networking Costs ²	\$0	\$7,000,000
Total: 10-year Cost of Ownership	\$14,010,225	\$19,584,304

¹ CAPEX and OPEX system costs based on median of cost estimates received.

² Networking costs is a placeholder for the two networks for Single Platform (pending vendor estimate is likely to be lower).



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Preferred Alternative Results

Task Force Member	Alt. 1: Distributed	Alt. 2: Single Platform
Fire Districts (Tim Osgood, Woodinville)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
KC Information Technology (Bill Kehoe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
KC E911 Program Office (Deb Flewelling)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
King County Sheriff's Office (Jessica Sullivan)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Small PSAPs (Micki Singer, Bothell)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
City of Seattle (Russ St. Myers)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
City of Bellevue (Chelo Picardal)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Deaf Community (Kelly Shapard, ADWAS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Large PSAPs (Jess Nelson, Valley Com)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sound Cities (Ron Tiedeman, NORCOM)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Totals	4	6



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Distributed

(Cost, PSAP flexibility)

Reasons for Distributed:

- "Cost and control; ensuring PSAPs have a voice and a vote on decisions that significantly impact their operations and budgets."
- "Flexibility for PSAPs: This is direct with distributed; control is at County with platform"
- "There are systems costs beyond Technology & Operations"
- "Resiliency inherent with the architecture in dealing with a focused malicious attack."
- "Cost effectiveness; PSAP flexibility"
- "Convergence and Interoperability through ESInetII"
- "Almost immediate solution to NG911"
- "Impacts on PSAPs are minimal and predictable"

Concerns about Single Platform:

- "Cost: \$6 million over 10 years cannot be ignored." "Too expensive"
- "If a comprehensive financial model exists to make the single platform achievable without unnecessarily increasing the burden on PSAPs, and PSAP control interests are addressed, then we can support the Platform alternative."
- "Provides marginal benefit when both systems meet established requirements. Finance Task Force may identify fiscal considerations not fully vetted here."
- "High impacts from platform failure, especially for life and death risk."
- "Maintenance and troubleshooting challenges."
- "Many qualities, but if the focus of a persistent, malicious attack, the impact would be much more severe than the same attack on a single PSAP."
- "Risk: Under single platform, the county system bears more of the risk since much of the network is not through ESInetII. Single platform fiscal, implementation, and configuration complications are not fully understood."



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Single Platform

(stronger principles alignment, operations/upgrade efficiency)

Reasons for Single Platform:

- "Highest rating for all eight technology principles"
- "Resilient, interoperable; higher degree of security; easier to adapt or upgrade"
- "Redundancy (dual network); Resiliency (geo-diverse cores)"
- "Security; ease of system management; increased resiliency, etc."
- "Host nodes can be located in different locations for resiliency"

Concerns about Distributed:

- "Lower ratings for most technology principles"
- "Less redundancy, resiliency, and consistency"
- "Too much reliance on state & ESInetII"
- "Security risks and lack of security standards"
- "Routine maintenance challenges; duplicated costs; security vulnerabilities"
- "More complex to manage, maintain and enhance over time"



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Other Considerations

Distributed

- "Governance and technology decision-making going forward will be important."
- "Remote location is important for natural disaster."
- "Unknown network cost (this concern was partially addressed when the vendor estimate came in)."
- "Governance: We need some system that allows future technology efficiencies, regional operability and opens dialogue to a mechanism that allows fair and equitable decisions is needed."

Single Platform

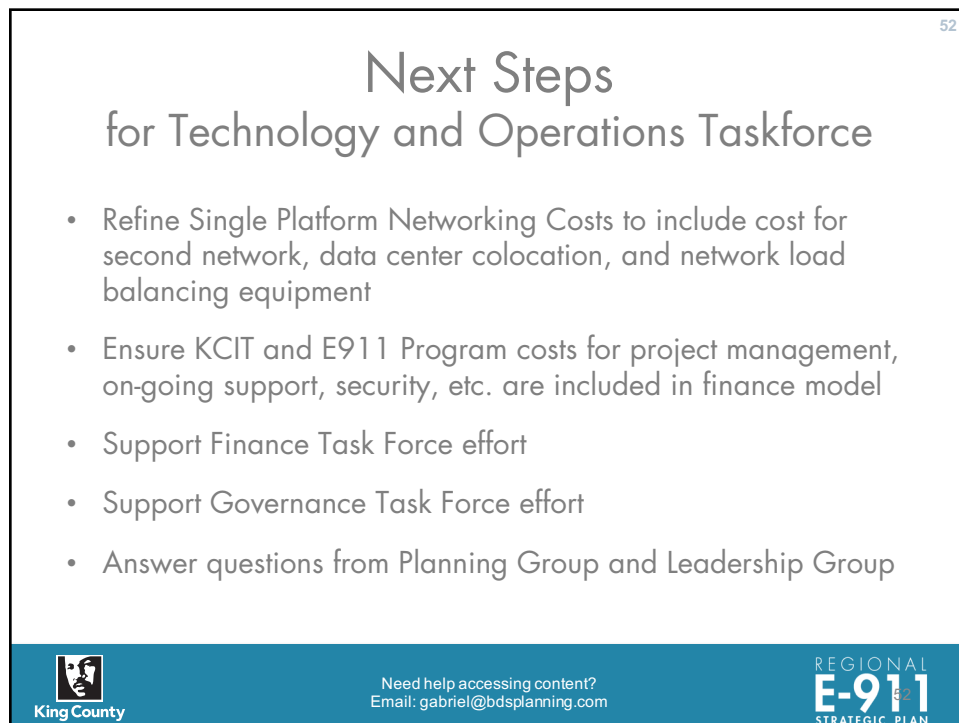
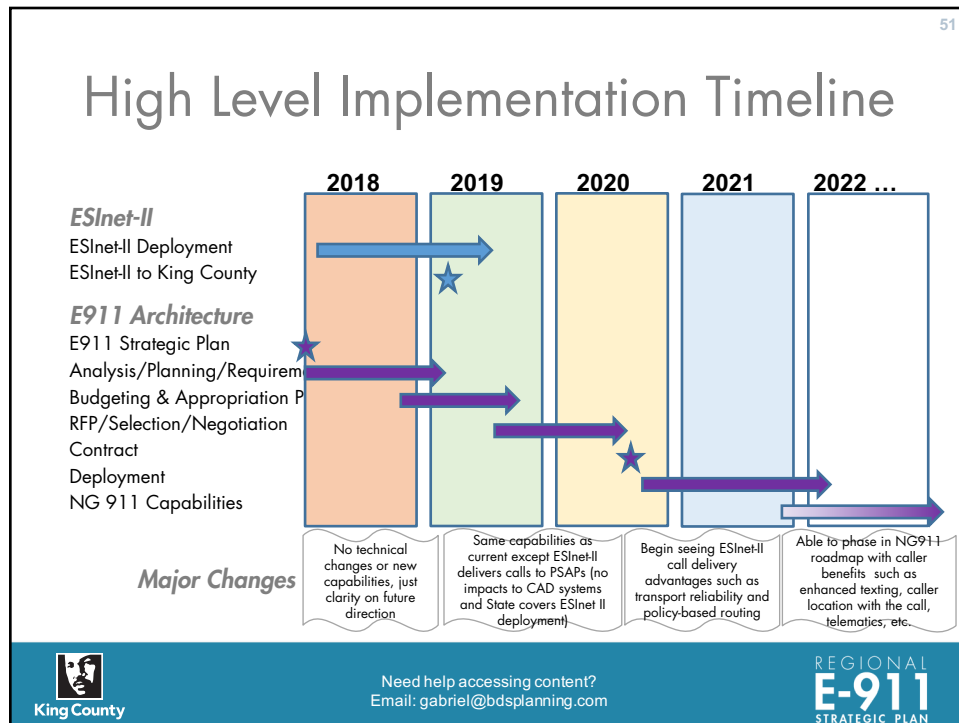
- "Operational model and costs from a program perspective"
- "Potential vulnerability to security threats such as network or telephony denial of service attacks, and possibility to affect all PSAPs simultaneously (versus only one PSAP in distributed)."
- "Ongoing long-term costs, especially for resilient/redundant networking."
- "Illustrate operational scenarios for Planning Group between both systems."



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Planning Group Recommendation

PG Member	Architecture
Chad Barnes	Alt 1 – Distributed
Marilynne Beard	→ further evaluate both
Diane Carlson	Absent (Pref. Alt 2 – Single Platform)
Patti Cole-Tindall	Alt 2 – Single Platform
Stacey Jehlik	Alt 2 – Single Platform
Lise Kaye	Absent (Pref. Alt 2 – Single Platform)
Kathy Lombardo	Alt 2 – Single Platform
Tim Osgood	Alt 2 – Single Platform
Brian Smith	Alt 2 – Single Platform
Lora Ueland	Alt 2 – Single Platform
Chris Wilson	Absent (Emergency – Pref. Unknown)

6/7 voting
= 86%



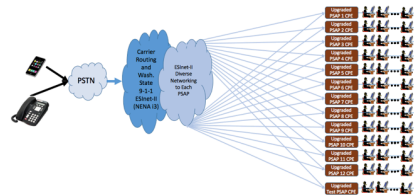
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Discussion

Alternative 1: Distributed

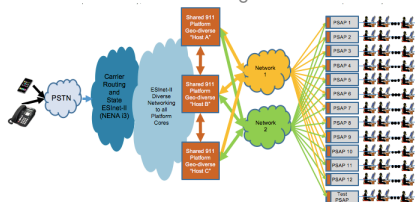


Principle Alignment

Principle	Alternative 1: Distributed Architecture	Alternative 2: Single Platform
Public Safety	✓+	✓+
Security	✓	✓+
Fair and Equitable	✓	✓+
Cost Effective	✓+	✓
Capacity	✓	✓+
Availability	✓+	✓+
Interoperability	✓	✓+
Convergence	✓	✓+

✓ meets principle ✓+ exceeds principle or meets it better than the other alternative

Alternative 2: Single Platform



Cost Comparison

	Alt 1 – Distributed Architecture	Alt 2 – Single Platform
One-Time System Implementation Costs (CAPEX) ¹	\$9,161,217	\$7,337,930
Annual System Maintenance Costs (OPEX) – 1 st year ¹	\$385,846	\$348,899
10-year OPEX (incl. refresh x 2) ¹	\$5,829,008	\$5,246,374
Annual Networking Costs ²	\$0	\$700,000
10-year Networking Costs ²	\$0	\$7,000,000
Total: 10-year Cost of Ownership	\$14,010,225	\$19,584,304

¹ CAPEX and OPEX system costs based on median of cost estimates received.

² Networking costs is a placeholder for the two networks for Single Platform (pending vendor estimate is likely to be lower).



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Today's Agenda



- Welcome & Introductions
- Strategic Plan Process Update
 - Roster
 - Recent Activity
 - Decision Timeline
 - Issues Overview
- Finance Preliminary Recommendations
 - Overview
 - Principles
 - Recommendations
- Technology & Operations Recommendations
 - Overview
 - Principles
 - Recommendations
- **System Architecture – Decision**
- Governance Preliminary Recommendations
 - Overview
 - Principles
 - Recommendations
- Follow-up Items / Next Steps



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Governance Principles

- **Every PSAP** has a seat at the table
- A form of **proportionality** shall be used for voting purposes
- A form of **consensus** decision making shall be used
- The structure must continue to function if the **system changes**
- The Governing Board will make **informed and timely decisions** for the good of the regional system
- The Governing Board will **inform and advise** on the regional 911 system
- The Governing Board will be **fully transparent** in decision making
- Governing Board members should advocate at all levels to implement **best practices and appropriate resources** in the public and private sectors
- The Governing Board shall maintain a **collaborative approach** among all jurisdictions and project partners, including open and regular communication
- The Governing Board shall review and consider the results of outreach to **diverse communities** that are served by the Regional King County E-911 system
- The Governing Board shall continue to seek **opportunities for improvement**



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Preliminary Governance Recommendation

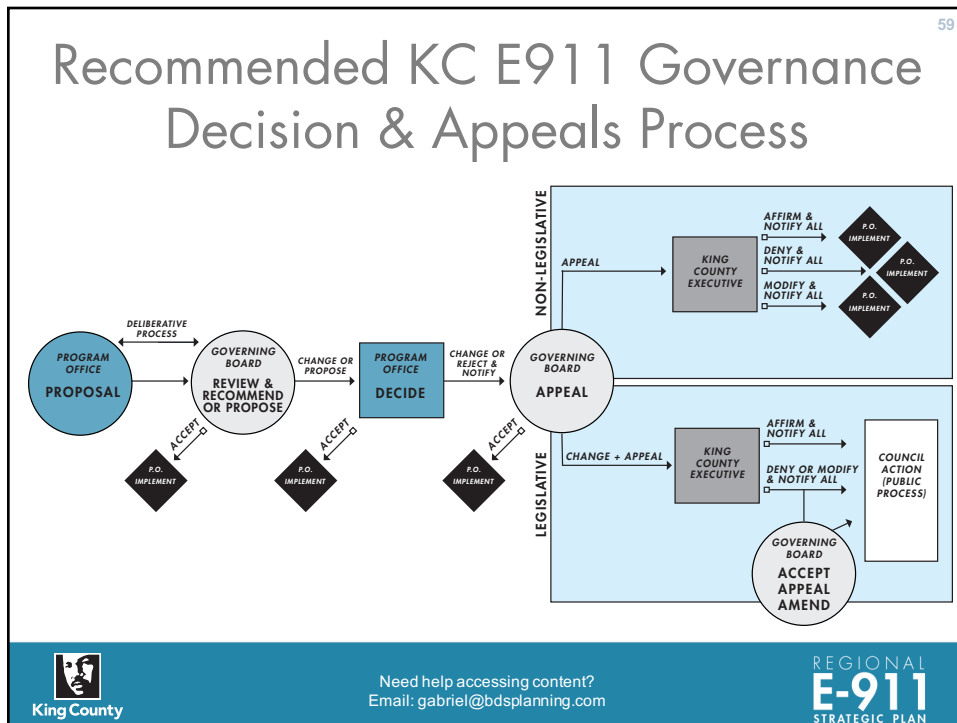
- The governing board will be advisory to the program office, the County Executive and the County Council
- The governing board will have 12 voting seats, one for each PSAP.
- The vote will be a two-step process, in which 40% of those present and voting representing 60% of the call volume must be in agreement for a decision to be made.
- There must be a quorum for a vote to take place. A quorum will be defined as half plus 1 and at least 60% of call volume.
- The call volume metric will be revisited annually to have the ability to change with new 911 technology, and/or call volume must be defined to include the different ways people can contact 911.
- Consensus is defined as no one asking for a vote



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Recommended KC E911 Governance Decision & Appeals Process

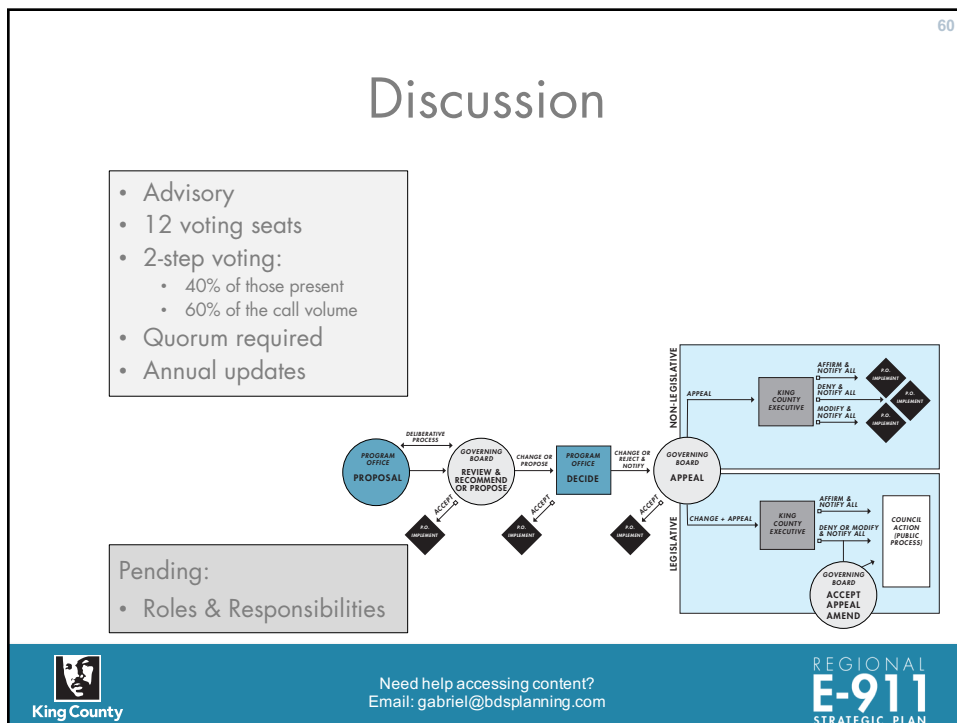


Discussion

- Advisory
- 12 voting seats
- 2-step voting:
 - 40% of those present
 - 60% of the call volume
- Quorum required
- Annual updates

Pending:

- Roles & Responsibilities



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Leadership Group

Next Meeting:
November 9, 9:00 – 11:00
Location: Chinook Building, Room 123

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