

next generation
ORCA

Sound Transit
Citizen Oversight Panel

May 16, 2019

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ORCA ORCA FARE COLLECTION



- Smart card for paying transit fares
- Usable on transit region-wide
- \$240M in fare revenue in 2016
- Grown to ~65% of all trips



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WHY ARE WE REPLACING THE CURRENT ORCA SYSTEM?



- Contract for ORCA with ERG (now Vix) was signed in 2003
 - Current technology is aging
 - Proprietary system prevents competition
 - Contract expires in 2021
 - Equipment becoming obsolete
-
- Further transit system expansion is happening
 - New technology and payments evolution is coming

GOVERNANCE OVERVIEW

- Governed by consensus-based Joint Board - 7 agency reps
- Regions with multiple agencies co-leading projects are unique
- Multi-agency projects can face more challenges reaching consensus
- How things are managed in ORCA:

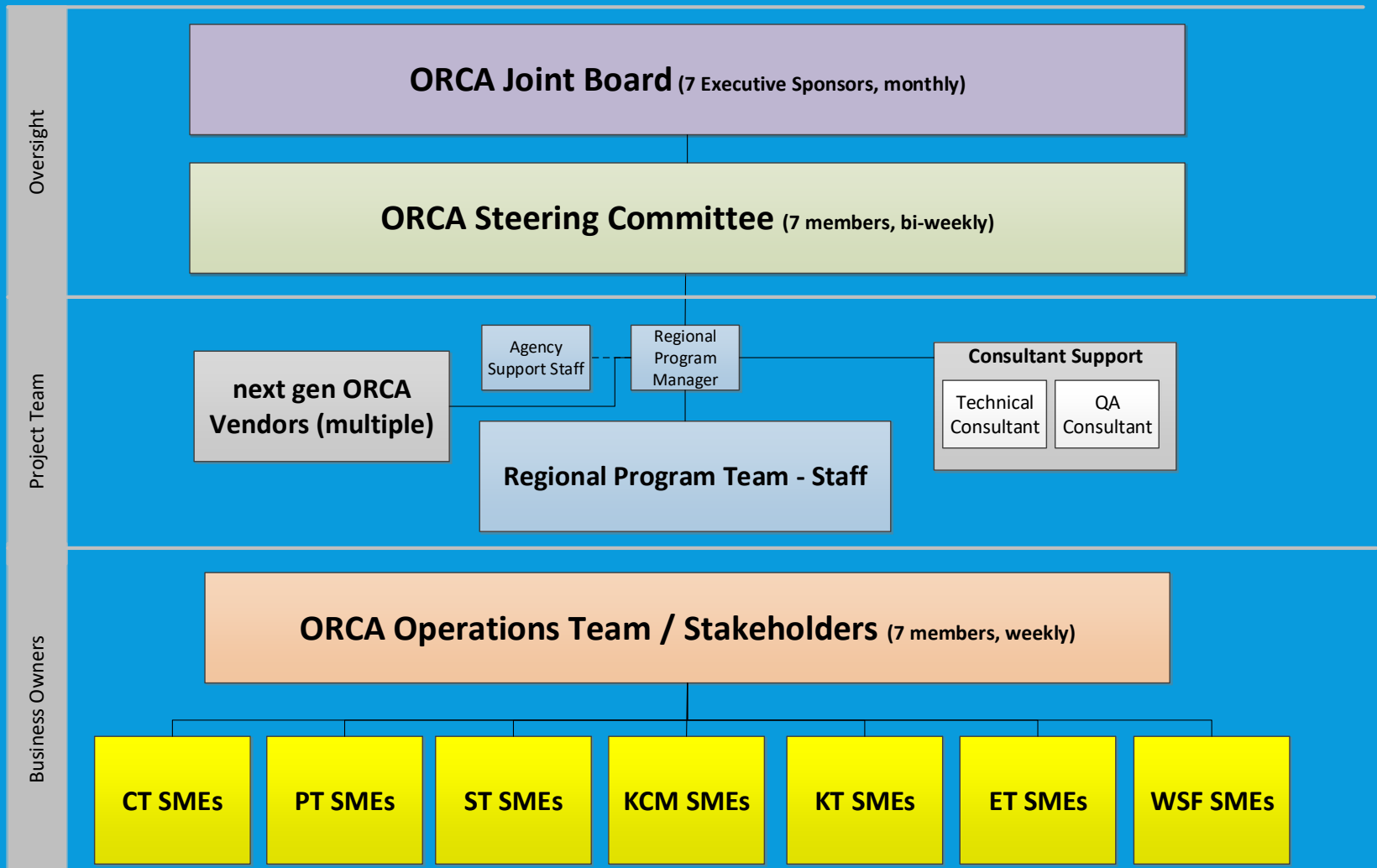
Equal Joint Board Representation
Agency Staff



- → How things are managed in next generation ORCA:

Equal Joint Board Representation
Steering Committee
Regional Program Team

NEXT GEN ORCA ORG CHART



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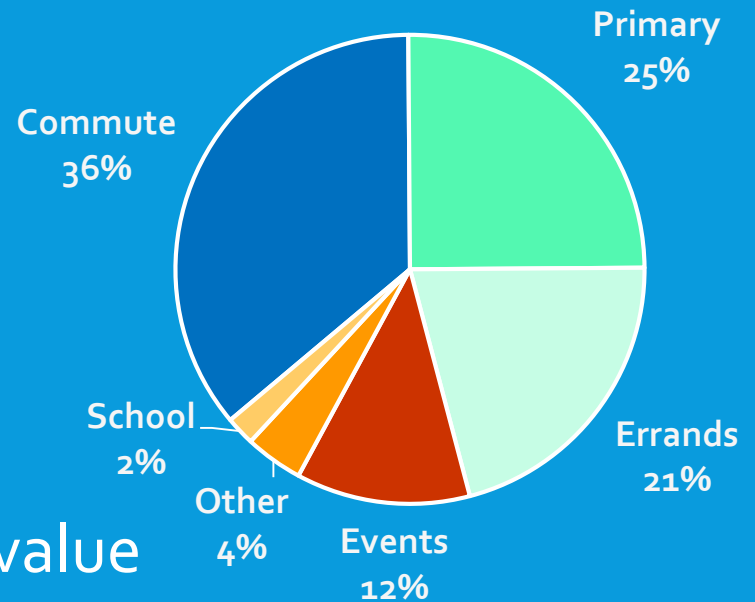
ORCA CUSTOMER SURVEY RESULTS

- Most liked about ORCA:

- Convenience
- Speed (of boarding)
- Regional mobility

- Least liked about ORCA:

- 1** Delays in reloading products/value
- 2** Not enough locations to reload
- 3** Website interface
- 4** No mobile solution



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ORCA CUSTOMER IMPROVEMENTS

1 Instant account updates

- Product/value loads will happen in seconds!

2 More retail locations

- More than double the current locations at launch

3 Improved website

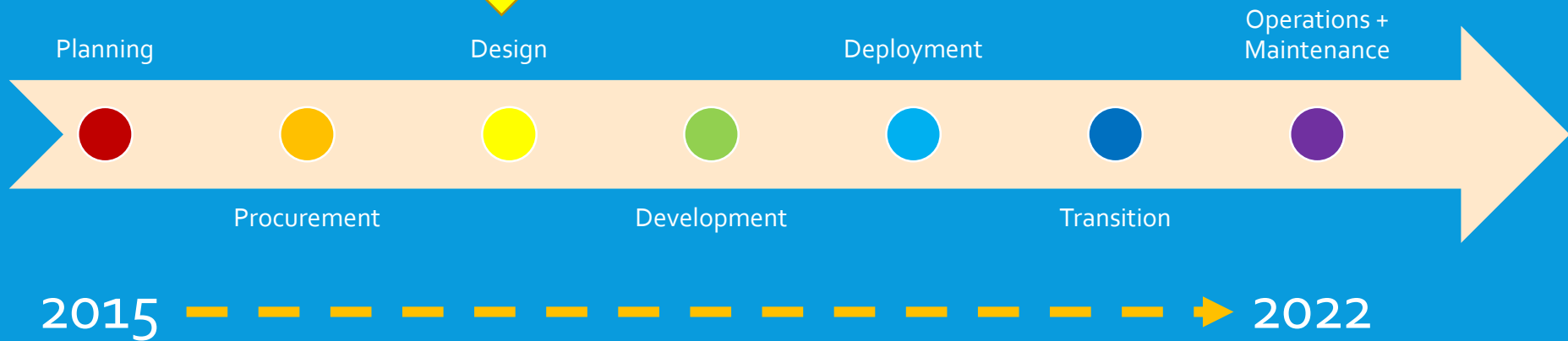
- Better features for individual and business customers

4 Customer mobile apps

- Ability to manage account and pay from your device

OVERALL TIMELINE

▪ We are here



TASKS COMPLETE: PLANNING

- ✓ Needs Analysis/Strategic Plan
- ✓ Established Steering Committee
- ✓ Formed Regional Program Team
- ✓ Program Charter
- ✓ Focus Groups
- ✓ Customer Survey
- ✓ Hired Technical Consultant Team
- ✓ Crafted initial Schedule/Budget
- ✓ Systems Eng Mgmt Plan
- ✓ Risk Mgmt Plan + Register
- ✓ Regional Fare Forum
- ✓ Industry Requests for Information
- ✓ Scope Refinement
- ✓ System Requirements
- ✓ Data Consultant Procurement
- ✓ Transition Activities

Planning

Design

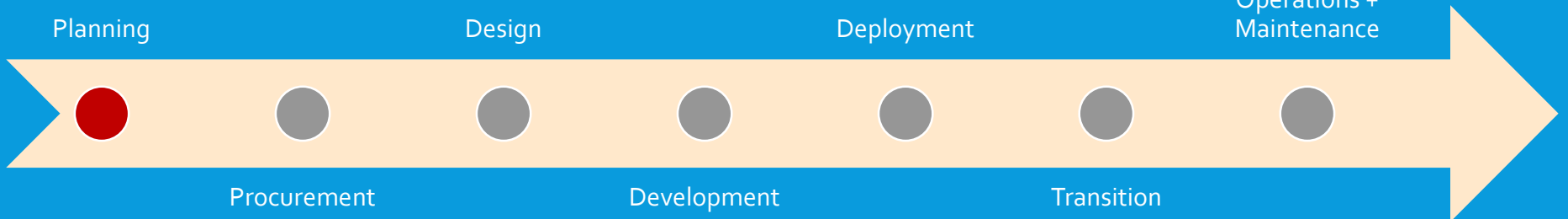
Deployment

Operations +
Maintenance

Procurement

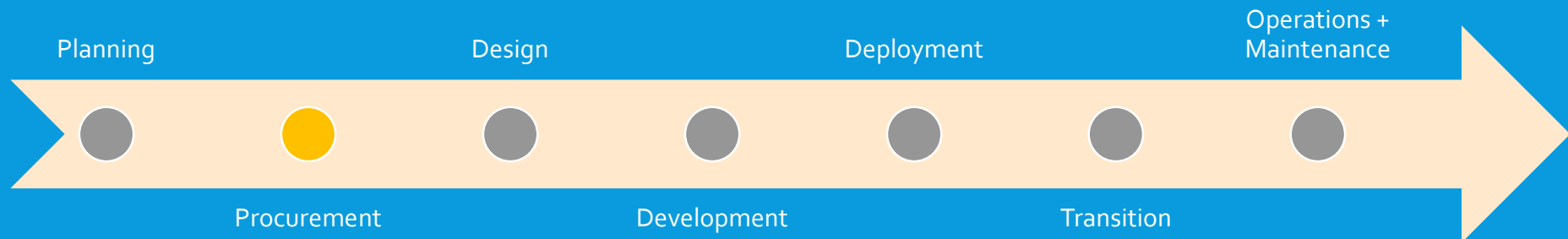
Development

Transition



TASKS COMPLETE: PROCUREMENT

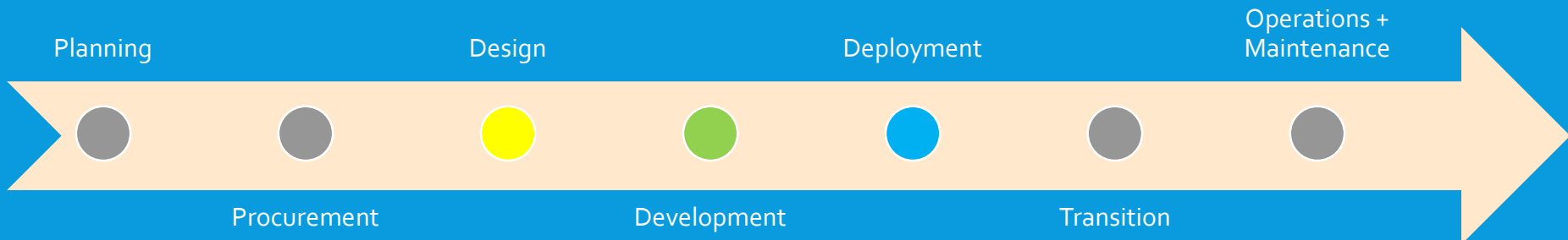
- ✓ **Consultant Services** – Four Nines et al. for technical support
- ✓ **Data Access and Reporting** – Estrada for data warehouse consulting
 - ❑ Finalizing data storage (Azure) and reporting platform (Tableau, Power BI) contracts
- ✓ **Quality Assurance** – ARC Alternatives for Program QA
- ✓ **Systems Integrator** – INIT for the main vendor partnership
- ✓ **Retail Network** – Ready Credit for retail mgmt., distribution, and sales
- ❑ **Merchant Bank Services** – estimated mid-2020
- ❑ **Fare Media** – estimated late 2020



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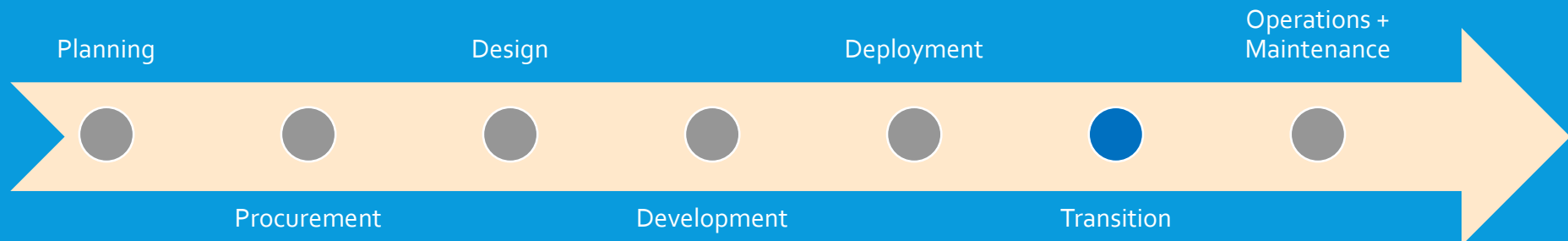
ORCA NEXT STEPS

- ☐ System Design in 3 reviews: ☒ Conceptual ☐ Preliminary ☐ Final
 - Collaboration between separate vendors in preliminary design
- ☐ Development in overlapping phases
- ☐ Standing up all aspects of system functions prior to transition
 - Including: Back end system, financial management, customer relationship management, device software, mobile app, website



next generation **ORCA** TRANSITION

- Transitioning from current ORCA to next gen ORCA
 - Replacement while ensuring that ORCA keeps on running
 - Smooth transition to make it easy for customers
 - Integrations with many other devices/systems
 - 7 unique agencies and needs, but seamless travel is critical
 - Ensuring solid security for customers and their data

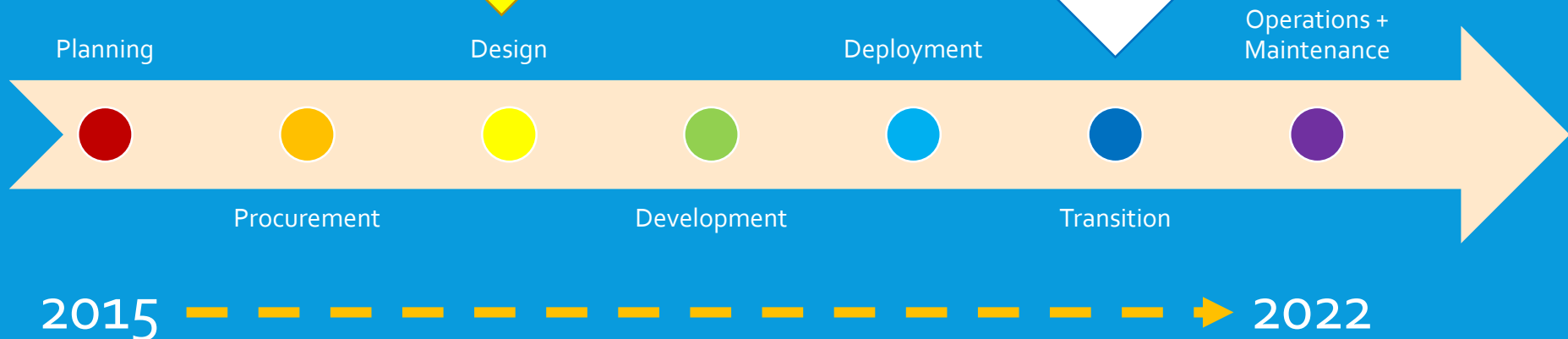


OVERALL TIMELINE

▪ We are here



▪ Customers will start to see changes here



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ORCA PROGRAM SCOPE

- next generation ORCA will be a phased program
- Phase 1
 - Replacement system – what does ORCA do today?
 - Additional features addressing largest customer groups
- Phase 2 and Potential Future Projects
 - Inclusion of additional transit agencies
 - Integration with additional modes of transportation
 - Additional features and functionality in demand
 - Further enhancement of the rider experience



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ORCA AVOIDING BEING OBSOLETE

- So how do we avoid being behind on the latest technology by the time we launch?
 - We're paying attention:
 - To peer transit agencies
 - To technology developments
 - To the payments industry
 - Because it's hard to predict exactly what the latest technology will be, we're building the system with an open architecture where possible



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ORCA FUTURE WORK

- Leveraging an Open Architecture Approach:
 - The system is being built out as a “minimum viable product” replacement, with the future scope roadmap in mind
 - Additional agencies, new functions, and other modules can be added to the existing foundation as needed
 - Years down the road when equipment and technology becomes obsolete, a new fare collection system can be built on the same foundation



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ADDITIONAL SLIDES



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ORCA OPEN ARCHITECTURE



- Application Programming Interfaces (APIs) are keys
- Expandable system
- Vendors can compete for additional components

PHASE 1 – INITIAL LAUNCH OF NEXT GENERATION ORCA SYSTEM (2021-22)

*Systems Integrator
Procurement*

Open Architecture Approach and API Platform

Application Programming Interfaces between system components will allow for future integration with outside systems. Expansion may require additional development of core APIs.

Account Based System and Transaction Processor

Central Payment, Financial Clearing, and Settlement
Customer Service Terminal Equipment
Customer Relationship Management Application
Customer and Business Account Websites

Paratransit and Vanpool (current features)

Basic CAD/AVL Integration

Onboard and Wayside Validators

Driver Display Unit

Vending Machines

Mobile Inspection/Validation Apps

Mobile Customer App

System Manager

Asset Inventory Management App

*Separate
Contracts*

Data Access and Reporting Platform

Retail Network

ORCA Extended-Use Media

*Dependent
Projects*

WSF - Wave2Go Integration

KCM - CAD/AVL Integration

CT/ET/KCM/KT/PT - Real-Time Wireless

ALL - Wired Comms Upgrades

ALL - Mobile Devices

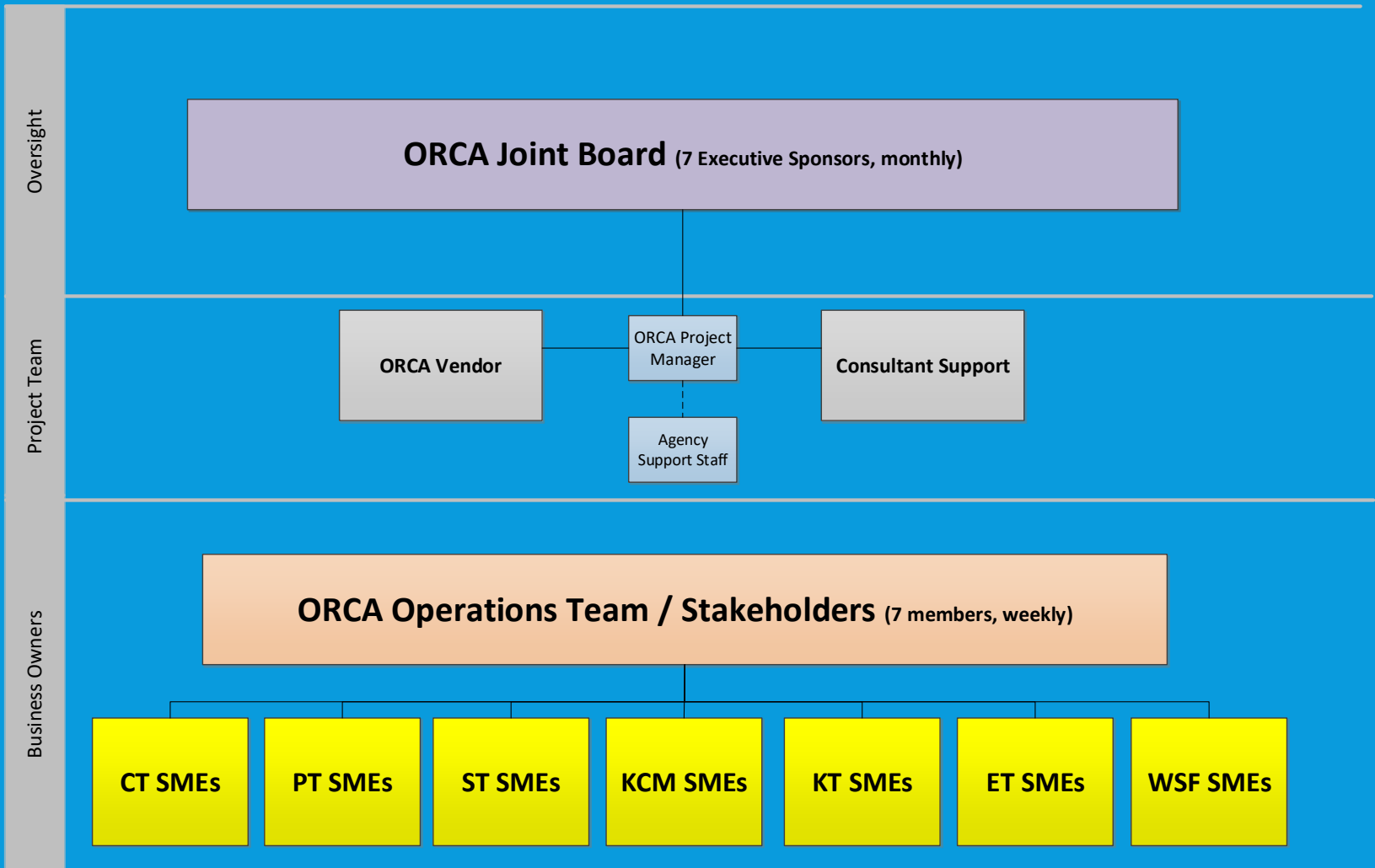


PHASED PROJECT – PHASE 2+

- Expansion to Other Agencies
- Transit Parking Implementation
 - Fully Integrated Parking Solution
 - Usage and Location Reporting
- Full Vanpool Integration
 - Billing and Reporting Functions
 - Bookkeeping Mobile App
- Paratransit Integration w/ Scheduling
- Kitsap Fast Ferries Reservations Integration
- Open Payments
- Fare Capping and Loyalty Programs
- Stand-Alone Configuration/Change Management System
- Limited-Use Media Issuance
- Third-Party Issued Media Acceptance
- Head Signs / APC Integration
- Other Transportation Connections
 - Mobile Ride Services
 - Bike Parking
 - Carshare
 - EV Charging Stations
 - Bikeshare
 - Dynamic Carpooling

	existing ORCA	next gen ORCA	Tri-Met Hop	CTA Ventra
Account-based flexibility		✓	✓	✓
Immediate value		✓	✓	✓
Mobile apps		✓	✓	✓
Open payment			✓	✓
Mobile closed payment		✓	✓	
Fare capping			✓	
Agency-operated		✓	✓	
Open-architecture		✓	✓	
≥4G Wireless		✓	✓	
Card-->account transition		✓		✓

ORCA ORG CHART



NEXT GEN ORCA ORG CHART

