America's Election Model: The Architecture of Elections

NIST-EAC Interoperability Election Modeling Working Group
Revision: 0.1

REVISION HISTORY

Revision	Date	Reason For Changes	Author
0.1	2018-06-25	Initial public release	John Dziurlaj

The latest version of this document may be retrieved at https://pages.nist.gov/ElectionModeling/

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1 Executive Summary

Most citizens don't give much thought to the work and planning that goes into administering an election, or the process steps that election officials go through to prepare for "the big day." It's a complex process, and one that is under a high degree of scrutiny.

The United States has a highly decentralized election system so the process of preparing for an election varies from jurisdiction to jurisdiction, but there are commonalities. There are common process steps that every election official in the country takes.

The purpose of Election Modelling is to:

- Outline process steps so that they can be more easily understood by election officials, the media, lawmakers, and the public.
- Identify processes and associated data that can be used to develop common data formats for elections.
- Serve as a template for election administrators seeking to analyze their own processes.

2 What is Process Modeling?

Processes are everywhere. There is a process to how you make your coffee, how you pump your gas, and how you order things online. Some processes are simple (e.g. pumping gas). Some are a bit more complex (e.g. buying a home). The more complex a process is the more important it is to be well documented.

A process can be performed consistenly, but only if it is well understood. Processes are often documented in natural language. Examples include laws, policies and guidelines. But natural language's expressiveness is also its Achilles heel: it is subject to interpretation.

A key advantage of modelling notations is that they remove some of the ambiguity inherent in natural language. Notations are also useful in that they can convey information in a way that various stakeholders can understand. For example, IT professionals often need a clear, unambiguous specification to build a system as it is intended.

The election modelling work has utilized process modelling to shine a light on election processes: how they work, what they require, when they occur, and who performs them.

3 Modeling Goals

The primary goal of this work is to describe processes and their associated data flows, such that use-cases for common data formats can be identified. A secondary goal of this work is to convey the current operating reality of election authorities to those outside the field. This understanding will lead to confidence in the process, as well as identification of areas for potential business process improvement.

4 Methodology

The process modelling wouldn't have been possible without the generous support of subject matter experts in the area of election administration. Election processes have been elaborated using a top down, linear time approach. These temporal categories include pre-election, election, and post-election.

4.1 Scope

Scope answers a very simple question: "what's included?" Scope is very important to define early on. Without this key constraint, the work loses focus and potentially its value.

There are two dimensions to scope, its breadth (what to cover) and its depth (the level of detail). The breadth has been limited to the conduct of elections in the United States by government bodies. The depth includes processes that are common across states (such as processes mandated by federal law). The model may not describe in detail state or jurisdiction specific processes, but it does its best to *accommodate* them (see High Level, Ready for Elaboration).

Efforts have been made to align this work with the scope of the Voluntary Voting System Guidelines (VVSG) 2.0, in development as of writing.

There is a useful distinction between core operating processes and supporting processes. Core processes are those that directly result in services provided by the election authority. There are other supporting processes that do not directly add value to the business, such as accounts payable, human resources, and information technology. Detail is provided only for operating processes. Those seeking to perform

benchmarking on their operations should consider adopting the "Management and Support Processes" from APQC's Process Classification Framework[i].

Table 1 - Scoping Table

	In	**Out**
Breadth	Goals of Election Systems	Everything Else
Depth	Common Election Processes	Divergent Election Processes

4.1.1 Descriptive vs Executable

A number of factors, including societal norms, federal and state law, and local policies inform election processes. Accommodating this patchwork of rules and regulations makes for an impossible modeling task; instead, this work has focused on the common functions an election authority is reasonably expected to perform. Such a model is considered descriptive as it provides a description of the general framework used to run the organization. It does not describe any process in enough detail for a business actor to perform (execute) his role by referring to the model alone.

4.1.2 Logical vs Physical

Analogous to the descriptive vs executable distinction lies the difference between logical processes and physical processes. A logical process speaks to what is to be done, not how to do it. For example, *add voter to list of eligible voters* does not specify the form of the list. It could be a card catalog, relational database, flat file, amongst others. Where possible the process model avoids describing physical implementation details.

4.2 High Level, Ready for Elaboration

The decentralized nature of elections administration makes it very difficult to design a one size fits all model. In fact, the model is not designed to show detail at the implementation level. Instead, the model has a number of tasks that can be elaborated so that election authorities can model their specific processes and business rules.

Thus, the process model can be used as a template for election authorities wanting to model their own business processes.

4.3 The Modeling Process

It may be easier to dive right in and start modelling, but doing so leads to many pitfalls. First of all, it is easy to become overwhelmed with complexity. The inability to see the "forest through the trees" makes models harder to understand and undermines their value. Second, a lack of formal process may lead to an uneven model, with some areas more complete than others.

Instead, a top down modelling approach is used. This methodology comes from the structured programming technique, where software is envisioned as a series of modules that can be elaborated based on functional area.

Adopted from Business Modeling A Practical Guide to Realizing Business Value (Bridgeland, 2009)
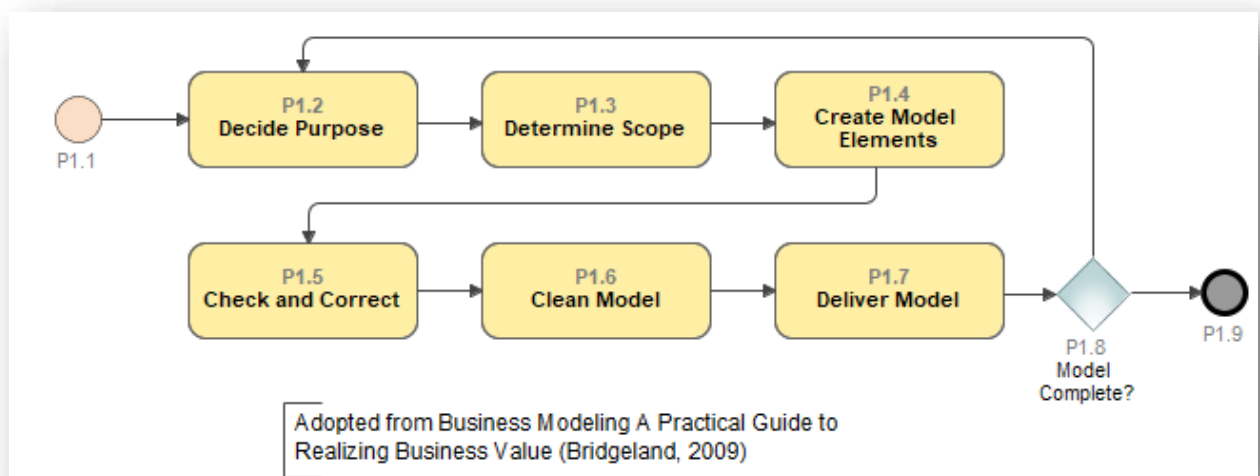
By following a top down approach to modelling, the model is always in a deliverable, albeit incomplete state.

4.4 Workshopping

4.4.1 Elicitation

Elicitation is the process of interviewing subject matter experts. The interview process involves asking questions about how elections are conducted. A wide variety of subject matter experts are necessary to ensure all perspectives are appropriately accounted for.

4.4.2 Validation

Validation is the process of reviewing the models with subject matter experts to ensure the models have properly captured the essence of the election process.

4.5 Deliverables

Key deliverables for this project include:
- A set of diagrams in Business Process Model and Notation (BPMN)[ii] notation and other notations
- A set of files describing the BPMN model in detail, including non-visual semantics.

5 Creating Use-Cases from Process Model

TBD

6 The Models

The election modeling work takes a holistic view of the domain of election administrations. No single model will be able to fully describe all dimensions of this enterprise. Instead, separate artifacts (diagrams) are used to answer different questions. These models roughly align with the popular Zachman Enterprise Architecture Framework [iii]perspectives:

- Executive Perspective
  - o What: Glossary
- Business Management Perspective
  - o What: Business Data Model
  - o How: Business Process Model
  - o Who: Organization Model
  - o When: Business Process Model (via events)
  - o Why: Business Motivation Model

6.1 Business Process Model Diagrams

The "flowcharting" that is at the heart of the election modelling uses the Business Process Model and Notation (BPMN) notation. This standard notation will be immediately familiar to those who have done flowcharting. BPMN uses additional symbols to address some of the deficiencies of traditional flowcharting. Knowing the meaning all of these symbols is not strictly necessary to understand the election models, but it is recommended. Explaining the notation of BPMN is outside the scope of this document, however, there are numerous resources available on the internet.

6.1.1 References to other models

- Swimlanes may be represented by an organization structure (e.g. role) in an Organization Structure Diagram
- Data objects may be represented by a class in a Business Data Model.

6.2 Glossary

The result of elections in America being decentralized is that multiple lexicons have developed. This has not just resulted in different words for the same concept (synonyms), but the same words for different concepts (homonyms).

A glossary will create preferred definitions for election vocabulary and identify synonyms where they exist, with the end goal of creating a common understanding of election-related terminology.

6.3 Business Data Model

The Business Data Model is a highly simplified data model that provides a set of data classes that can be used in business process diagrams.
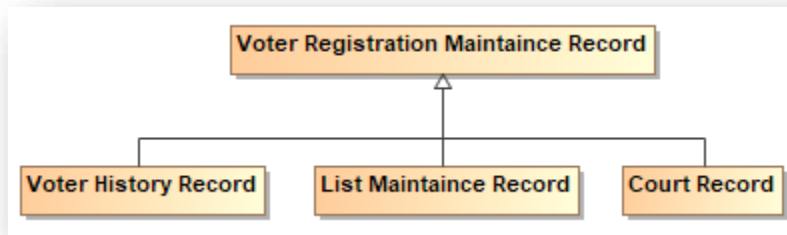
Figure 1 - A highly simplified UML Class Model

6.4 Process Definition Diagrams

Process Definition Diagrams (sometimes called *value chains*) produce a top down catalog of the essential activities of the election authority. Each process is a puzzle piece that fits into this larger process landscape. This high-level view shows dependencies between processes and constraints placed upon them by the Business Motivation Model. Processes can be grouped into packages that highlight their interdependence.

6.4.1 Example
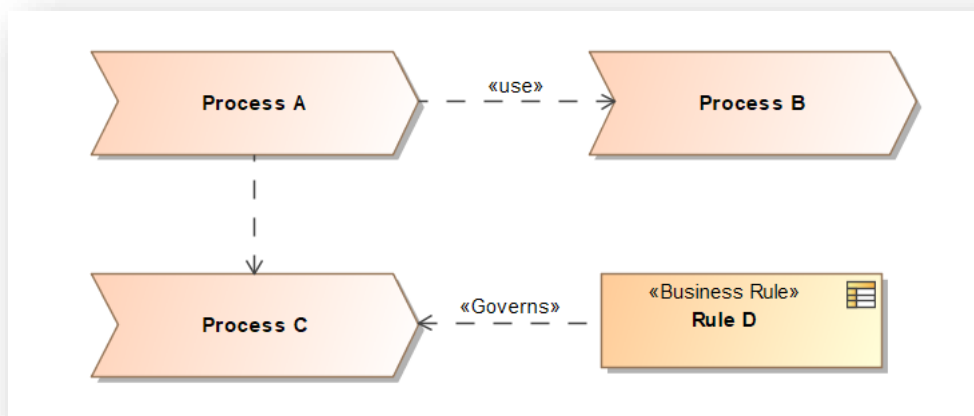
Figure 2 - Example of a Process Definition Diagram

In the above example, Process A *uses* Process B, meaning that Process B is called by Process A. Similarly, Process A *depends on* Process C, indicating that Process C likely needs to complete before Process A can start. Finally, Process C is governed by Rule D, indicating its behaviour will be constrained.

6.4.2 References to other models

- Business Policies and Business Rules defined by the Business Motivation Model may constrain the process.

6.5 Organization Structure Diagram

The Organization Structure Diagram describes the types of organizations, systems and roles that exist in the elections domain.

(The concepts described are stereotypes referencing the The Unified Profile for DoDAF/MODAF (**UPDM**)).
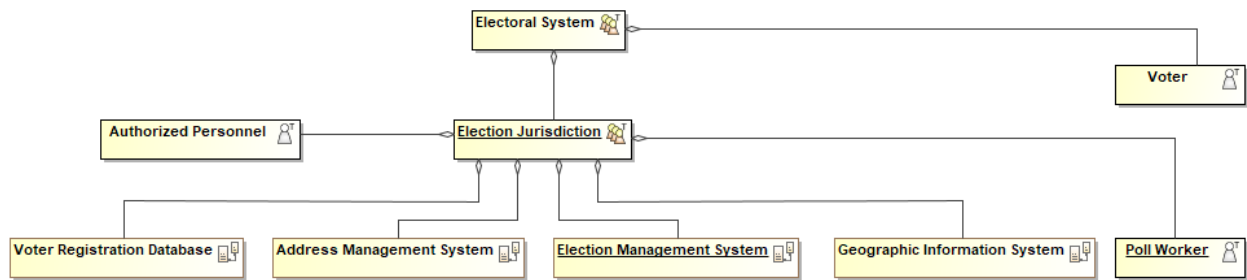
Figure 3 - Add caption here

6.6 Business Motivation Model

The Business Motivation Model is a specification of the Object Management Group to describe the ends, means, and influencers of a business organization. In the elections domain, this allows traceability across views. For example, a legislative body may create a law (Business Policy) that is implemented as business rules that support the goals (intent) of the law.

The Business Motivation Model can then be used to constrain other views. For example, a process can only exist if it is governed by a business policy or guided by a business rule.
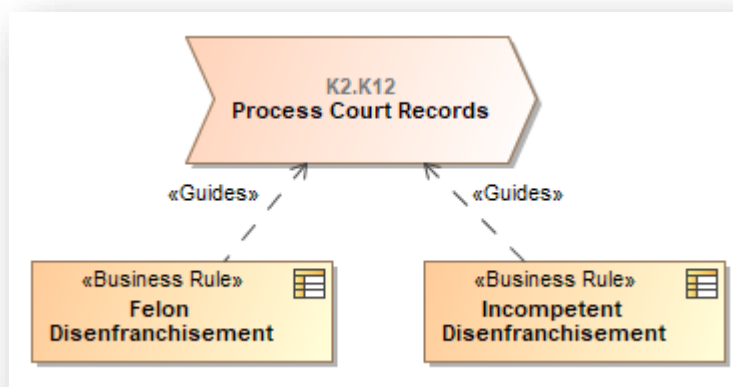
Figure 4 - A process constrained by the Business Motivation Model.

7 Value Chains

Diagram Election Process Definitions
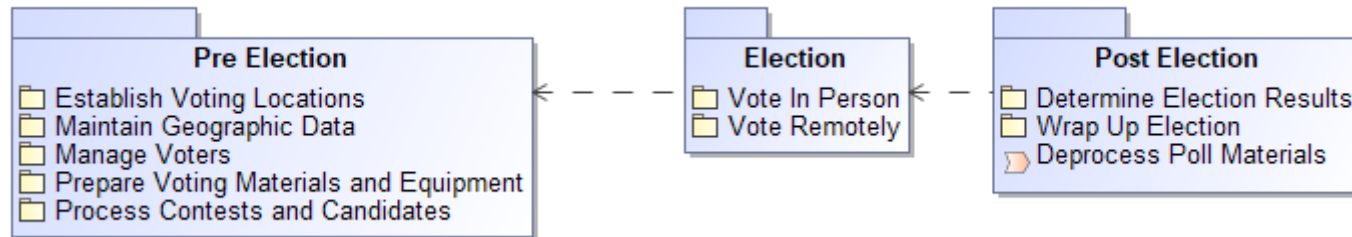
Figure 1.   Election Process Definitions

Diagram Pre Election
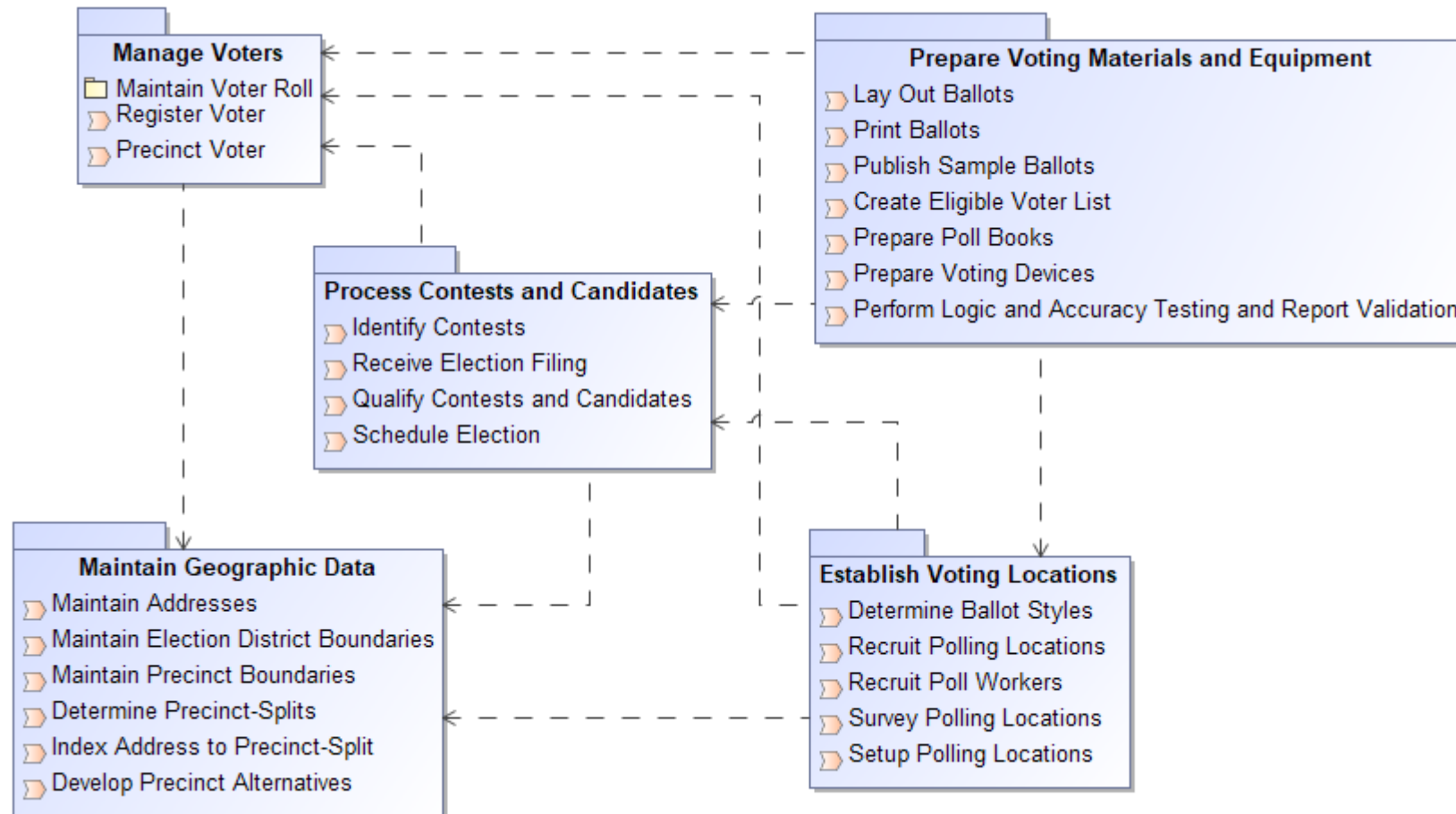
Figure 1.   Pre Election

Diagram Maintain Geographic Data
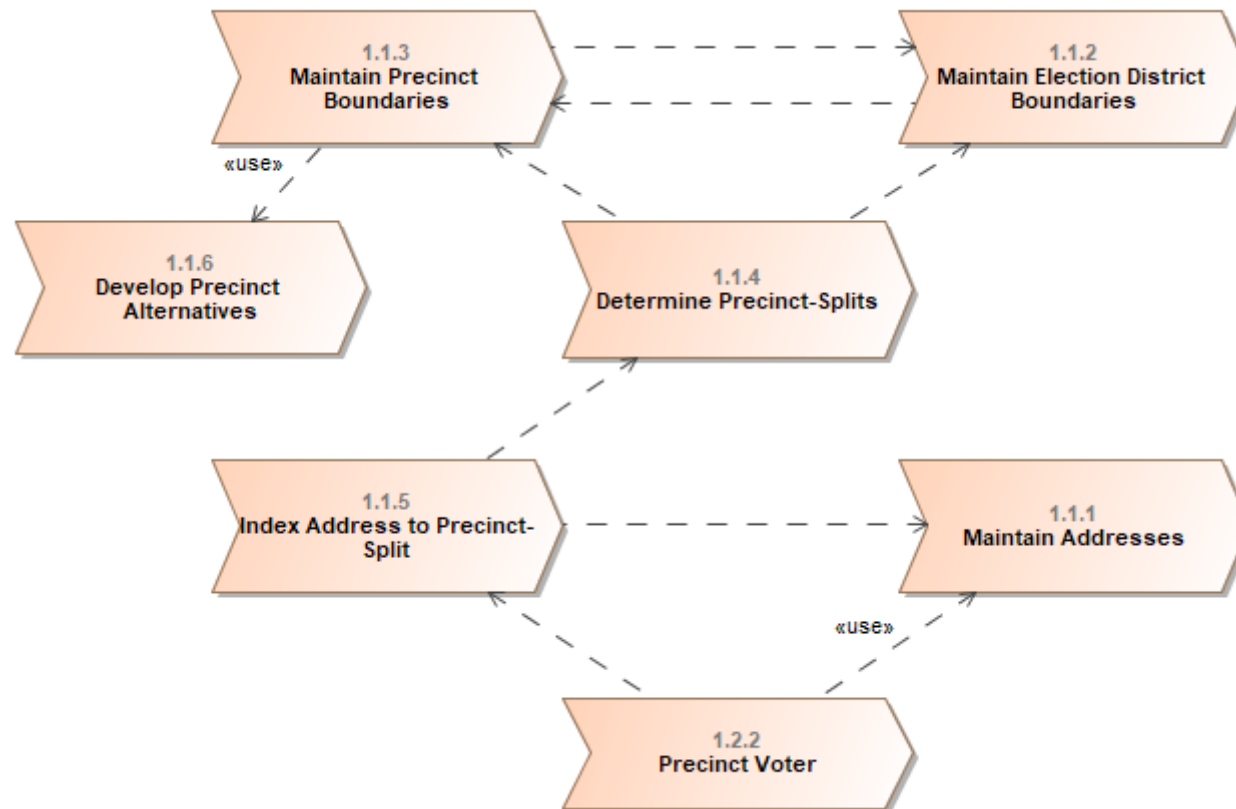
Figure 1.   Maintain Geographic Data

Diagram Manage Voters
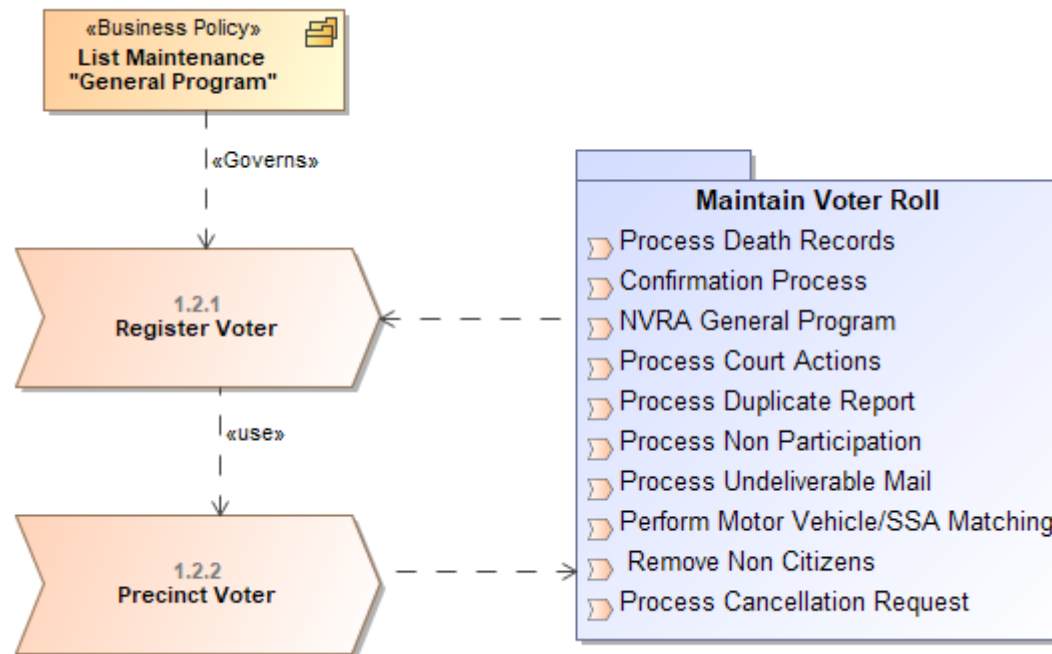
Figure 2.　　Manage Voters

Diagram Maintain Voter Roll
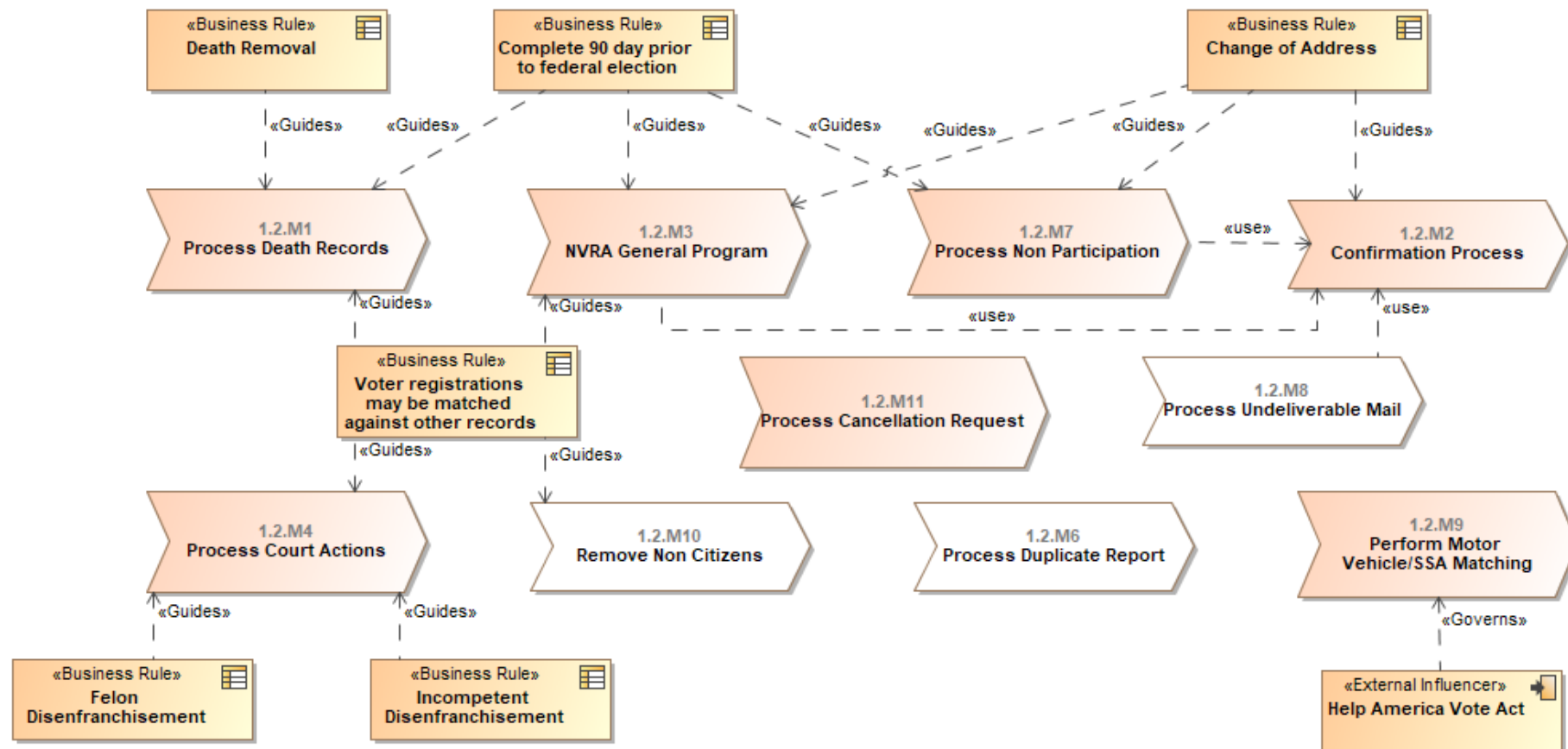
Figure 1.   Maintain Voter Roll

Diagram Process Contests and Candidates
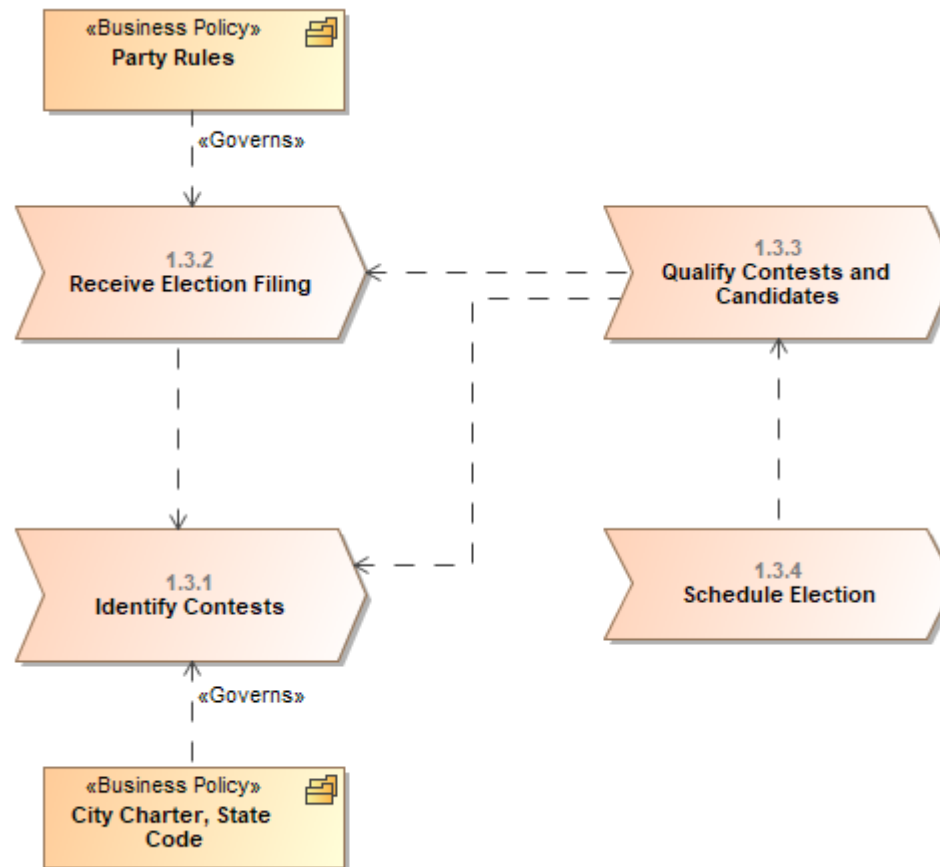
Figure 1.   Process Contests and Candidates

Diagram Establish Voting Locations
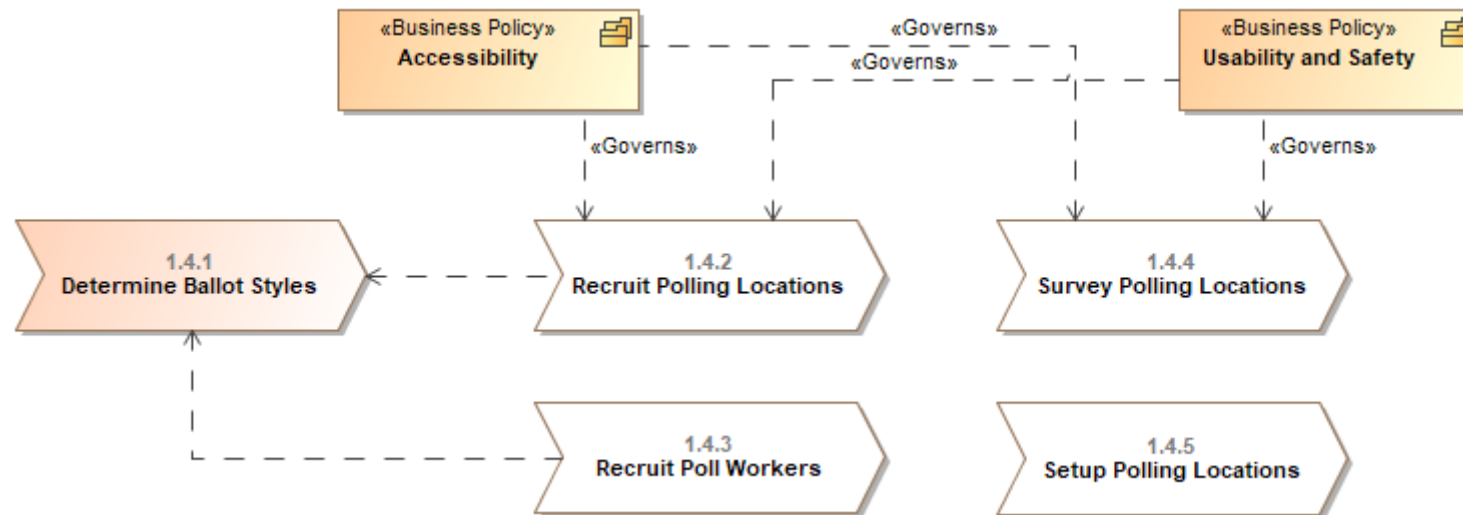
Figure 1.   Establish Voting Locations

Diagram Prepare Voting Materials and Equipment
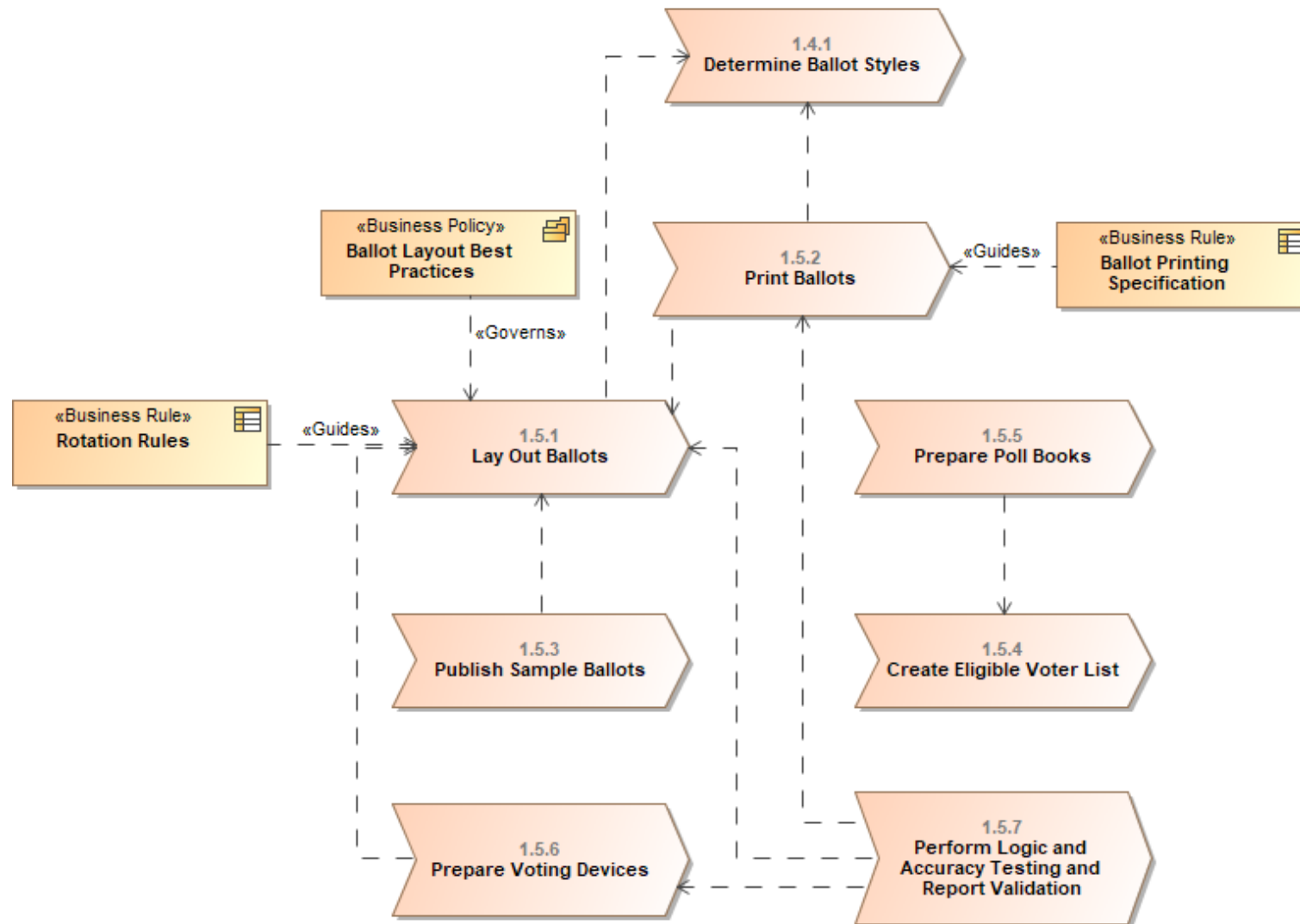
Figure 1.   Prepare Voting Materials and Equipment

Diagram Election
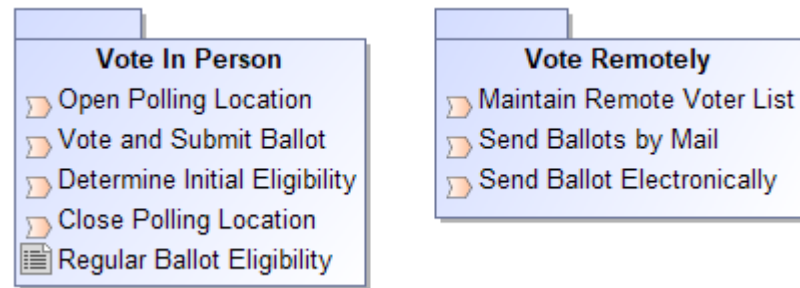
Figure 1.   Election

Diagram Vote In Person
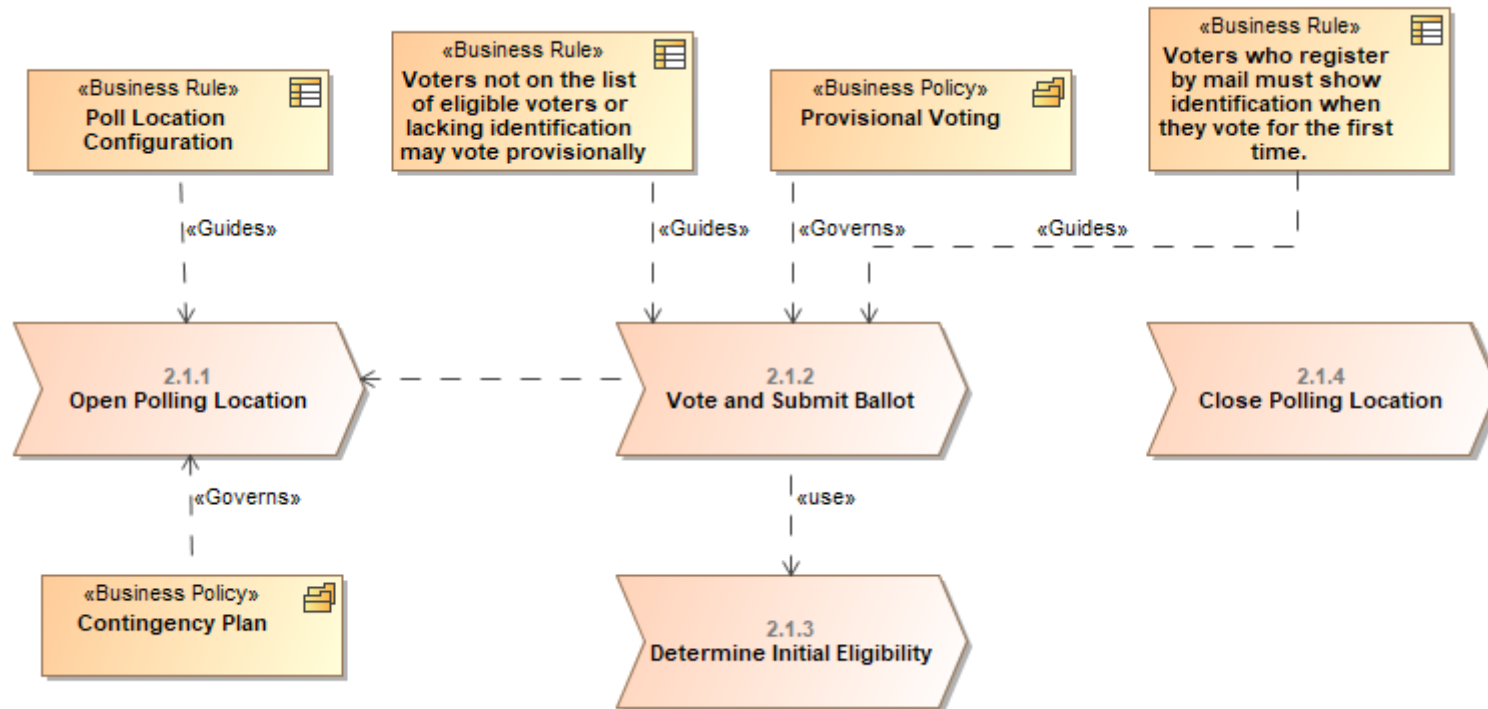
Figure 1.   Vote In Person

Diagram Vote Remotely
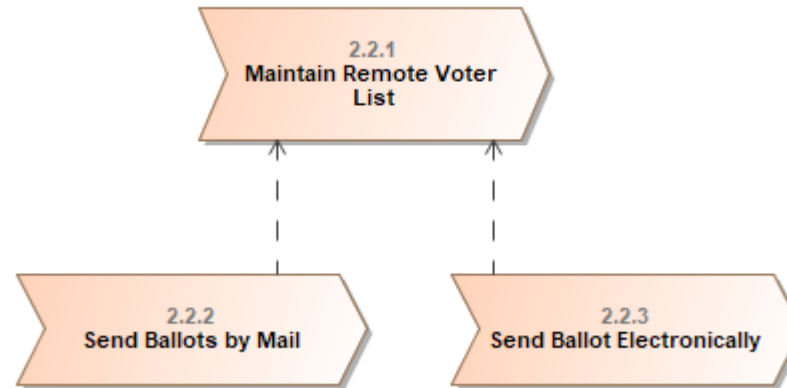
Figure 2.   Vote Remotely

Diagram Post Election
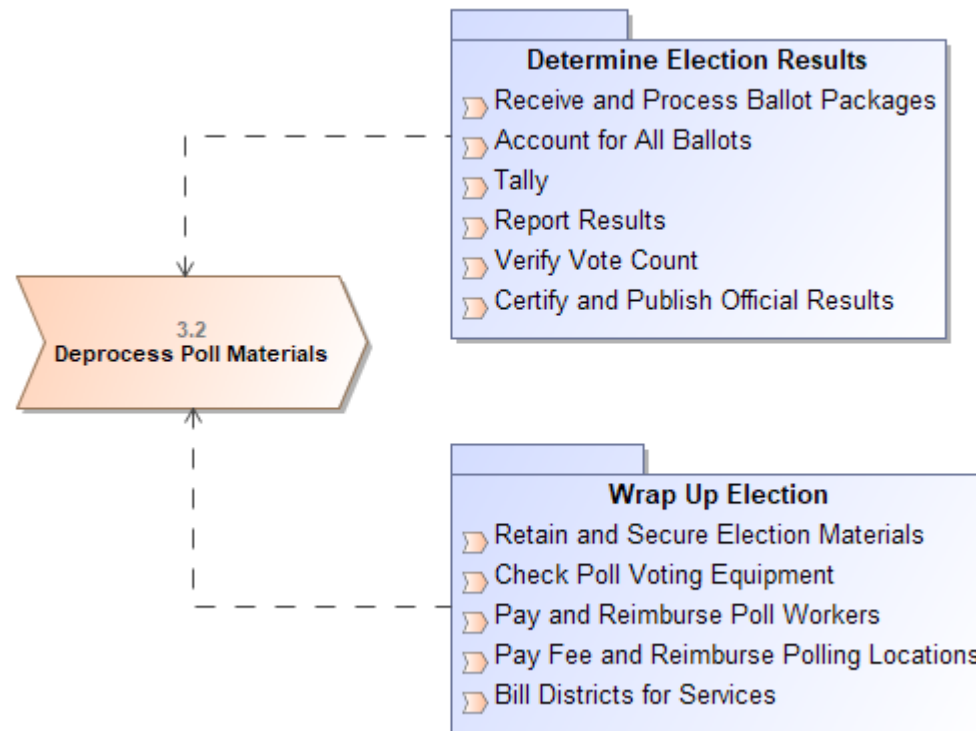
Figure 3.   Post Election

Diagram Determine Election Results
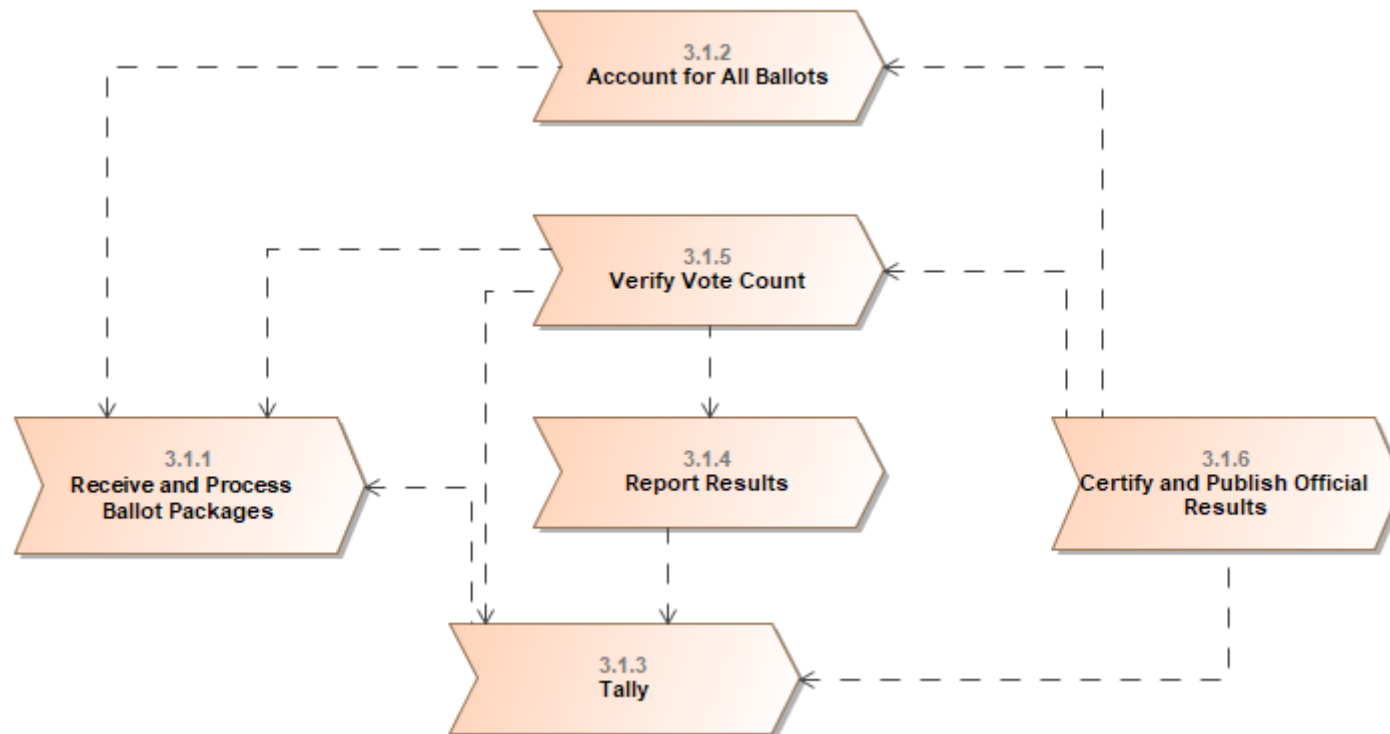
Figure 1.   Determine Election Results

Diagram Wrap Up Election
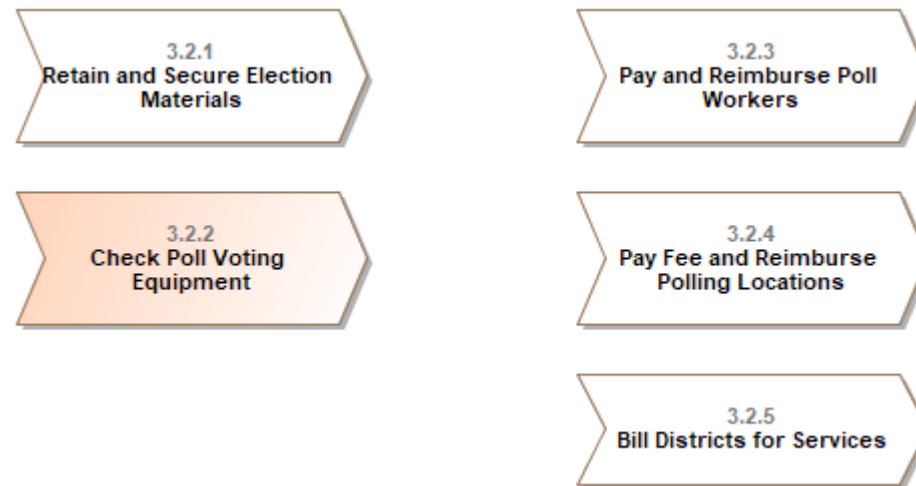
Figure 1.   Wrap Up Election

8 Processes

Resources in Processes:

Process Name	Id	Related Resources
Maintain Addresses	1.1.1	• Election Jurisdiction
Maintain Election District Boundaries	1.1.2	• Election Jurisdiction
Maintain Precinct Boundaries	1.1.3	• Election Jurisdiction
Determine Precinct-Splits	1.1.4	• Election Jurisdiction
Index Address to Precinct-Split	1.1.5	• Election Jurisdiction
Develop Precinct Alternatives	1.1.6	• Election Jurisdiction
Register Voter	1.2.1	• Election Jurisdiction • Applicant
Precinct Voter	1.2.2	• Election Jurisdiction • Voter

Process Name	Id	Related Resources
Process Death Records	1.2.M1	- Election Jurisdiction - Voter Registration Database - Address Management System - Voter Registration Database - Election Jurisdiction - Election Jurisdiction - Voter Registration Database - Resident
Confirmation Process	1.2.M2	- Election Jurisdiction - Voter
NVRA General Program	1.2.M3	- Election Jurisdiction - Voter
Process Court Actions	1.2.M4	- Election Jurisdiction - Voter
Process Duplicate Report	1.2.M6	Election Jurisdiction
Process Non Participation	1.2.M7	Election Jurisdiction
Process Undeliverable Mail	1.2.M8	
Perform Motor Vehicle/SSA Matching	1.2.M9	- Election Jurisdiction - Motor Vehicle Authority
Remove Non Citizens	1.2.M10	

Process Name	Id	Related Resources
Process Cancellation Request	1.2.M11	
Identify Contests	1.3.1	• Election Jurisdiction
Receive Election Filing	1.3.2	• Election Jurisdiction • Submitting Entity
Qualify Contests and Candidates	1.3.3	• Election Jurisdiction
Schedule Election	1.3.4	• Election Jurisdiction
Determine Ballot Styles	1.4.1	• Election Jurisdiction
Recruit Polling Locations	1.4.2	
Recruit Poll Workers	1.4.3	
Survey Polling Locations	1.4.4	
Setup Polling Locations	1.4.5	
Lay Out Ballots	1.5.1	• Election Jurisdiction
Print Ballots	1.5.2	• Election Jurisdiction • Printer
Publish Sample Ballots	1.5.3	• Election Jurisdiction
Create Eligible Voter List	1.5.4	• Election Jurisdiction • Election Jurisdiction

Process Name	Id	Related Resources
Prepare Poll Books	1.5.5	• Election Jurisdiction
Prepare Voting Devices	1.5.6	• Election Jurisdiction
Perform Logic and Accuracy Testing and Report Validation	1.5.7	• Election Jurisdiction
Open Polling Location	2.1.1	• Election Jurisdiction • Poll Worker • Poll Worker
Vote and Submit Ballot	2.1.2	• Poll Worker • Voter
Determine Initial Eligibility	2.1.3	• Poll Worker • Voter
Close Polling Location	2.1.4	• Poll Worker • Voter
Maintain Remote Voter List	2.2.1	• Voter • Election Jurisdiction
Send Ballots by Mail	2.2.2	• Election Jurisdiction • Voter
Send Ballot Electronically	2.2.3	• Voter • Election Jurisdiction
Receive and Process Ballot Packages	3.1.1	• Voter • Election Jurisdiction

Process Name	Id	Related Resources
Account for All Ballots	3.1.2	• Election Jurisdiction
Tally	3.1.3	• Election Jurisdiction
Report Results	3.1.4	• Interested Party • Election Jurisdiction
Verify Vote Count	3.1.5	• Election Jurisdiction
Certify and Publish Official Results	3.1.6	• Election Jurisdiction • Candidate
Deprocess Poll Materials	3.2	• Voter • Electoral System • Election Jurisdiction • Authorized Personnel
Retain and Secure Election Materials	3.2.1	
Check Poll Voting Equipment	3.2.2	• Election Jurisdiction
Pay and Reimburse Poll Workers	3.2.3	
Pay Fee and Reimburse Polling Locations	3.2.4	
Bill Districts for Services	3.2.5	
Business Process Diagrams	P1	

Process 1.1.1 Maintain Addresses

Maintain addresses and their location in relation to other geographic features.
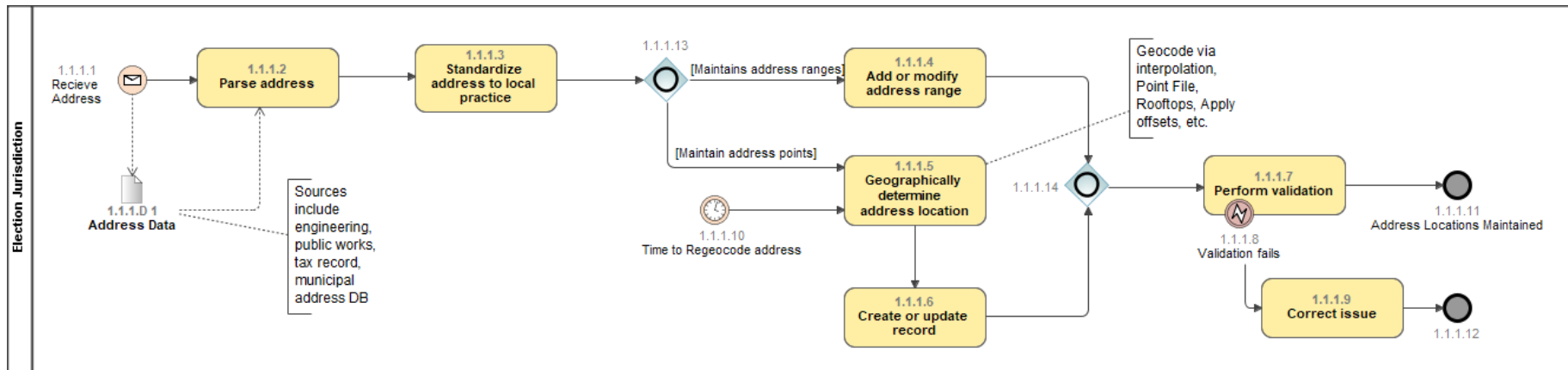
Diagram Maintain Addresses

Figure 2.   Maintain Addresses

Maintain a list of addresses

Process Activities:

Name	Description	Properties
1.1.1.2 Parse address	Parse the address into the format required for storage in the address management system.	Resources: • Election Jurisdiction • Address Management System
1.1.1.3 Standardize address to local practice	Standardize the address according to local business rules. These may include how to spell streets with ordinal numbers (i.e. 1st vs first), how to encode secondary unit identifiers, among others.	Resources: • Election Jurisdiction • Address Management System
1.1.1.4 Add or modify address range	Add or extend an existing address range. The address range may be represented as a line feature in a GIS system, or as a record in an address database.	Resources: • Election Jurisdiction • Address Management System

Name	Description	Properties
🔲 1.1.1.5 Geographically determine address location	Determine the spatial location of the domicile represented by the address.	Resources: • 👥 Election Jurisdiction • 🖥 Geographic Information System
🔲 1.1.1.6 Create or update record	Create a point feature indicating the most accurate location of the domicile.	Resources: • 👥 Election Jurisdiction • 🖥 Address Management System
🔲 1.1.1.7 Perform validation	Ensure that the created or modified data structures are valid.	Resources: • 👥 Election Jurisdiction • 🖥 Address Management System • 🖥 Geographic Information System
🔲 1.1.1.9 Correct issue	Perform context specific corrective actions.	Resources: • 👥 Election Jurisdiction • 🖥 Geographic Information System

Data used in Process:

Name	Description
📄 Address Data [▦ Address Record]	

Process 1.1.2 Maintain Election District Boundaries

Maintain the boundaries of political districts where a contest may appear.

Diagram Maintain Election District Boundaries

Figure 3.   Maintain Election District Boundaries
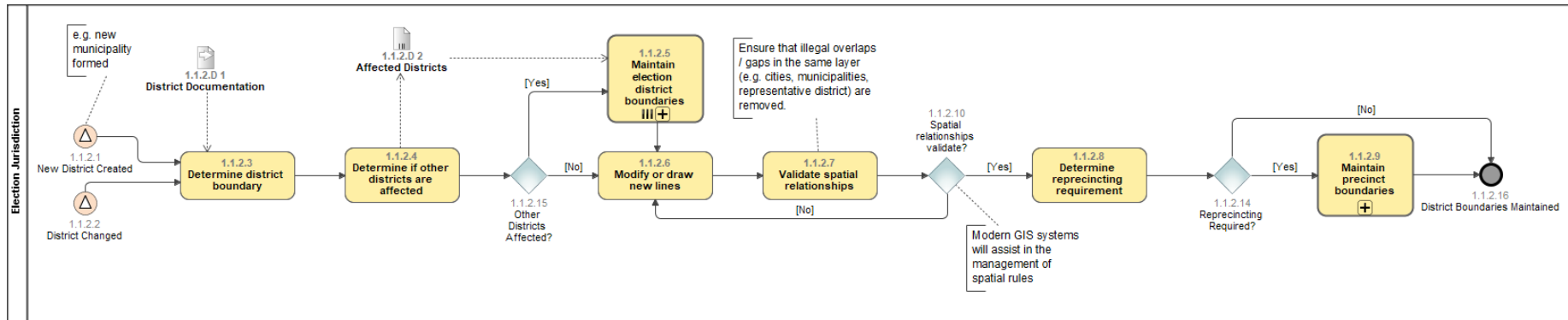
Maintain the boundaries of political districts where a contest may appear.

Process Activities:

Name	Description	Properties
▢ 1.1.2.3 Determine district boundary	Determine the geographic boundary of the district.	Resources: • 👥 Election Jurisdiction • 🖥 Geographic Information System
▢ 1.1.2.4 Determine if other districts are affected	Determine if other district boundaries should change as a result of the primary district change. This may include such things as shared services districts.	Resources: • 👥 Election Jurisdiction • 🖥 Geographic Information System
▢ 1.1.2.5 Maintain election district boundaries	Call the maintain election district boundaries process for each affected district.	Resources: • 👥 Election Jurisdiction • 🖥 Geographic Information System Called Element: • ▷ Maintain Election District Boundaries
▢ 1.1.2.6 Modify or draw new lines	Modify existing district lines or draw new ones, as needed.	Resources: • 👥 Election Jurisdiction • 🖥 Geographic Information System
▢ 1.1.2.7 Validate spatial relationships	Ensure that topographic and other business rules applied to the district validate successfully.	Resources: • 👥 Election Jurisdiction • 🖥 Geographic Information System

Name	Description	Properties
1.1.2.8 Determine reprecincting requirement	Determine if reprecincting must take place. This often occurs when redistricting causes district lines to cross existing precinct boundaries.	Resources: • Election Jurisdiction • Geographic Information System
1.1.2.9 Maintain precinct boundaries	Call the Maintain Precinct Boundaries process.	Resources: • Election Jurisdiction • Geographic Information System Called Element: • Maintain Precinct Boundaries

Data used in Process:

Name	Description
District Documentation [Geospatial Feature]	
Affected Districts [Geospatial Feature]	

Process 1.1.3 Maintain Precinct Boundaries

Maintain the registration or voting precinct boundaries that a voter is assigned.

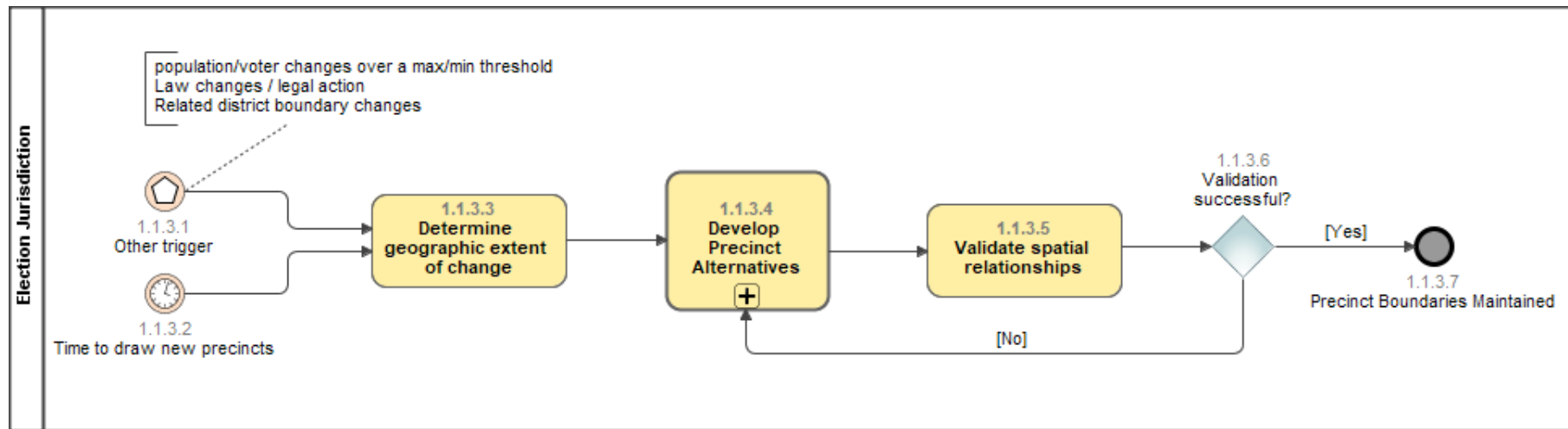# Diagram Maintain Precinct Boundaries

Figure 4.   Maintain Precinct Boundaries

Process Activities:

Name	Description	Properties
1.1.3.3 Determine geographic extent of change	Determine geographic area where changes may occur.	Resources: • Election Jurisdiction • Geographic Information System
1.1.3.4 Develop Precinct Alternatives	Call Develop Precinct Alternatives.	Resources: • Election Jurisdiction • Geographic Information System Called Element: • Develop Precinct Alternatives
1.1.3.5 Validate spatial relationships	Ensure that any changes to the precincts do not violate any of the rules or laws governing them.	Resources: • Election Jurisdiction • Geographic Information System

Process 1.1.4 Determine Precinct-Splits

Determine the smallest voting units (aka precinct-splits) that exist in a given jurisdiction.
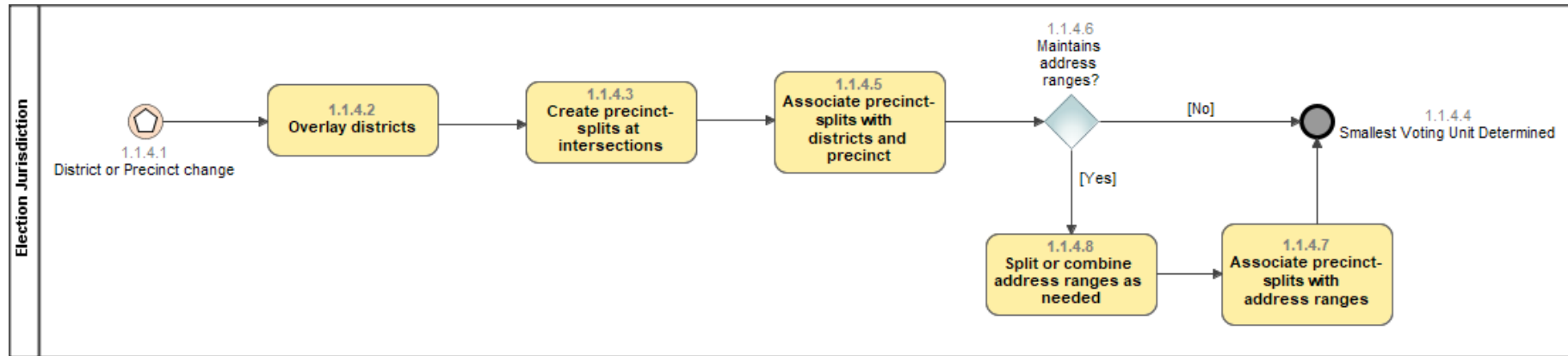
Diagram Determine Precinct-Splits

Figure 5.   Determine Precinct-Splits

Process Activities:

Name	Description	Properties
1.1.4.2 Overlay districts	Overlay all the districts that are relevant for voting purposes.	Resources: • Election Jurisdiction • Geographic Information System
1.1.4.3 Create precinct-splits at intersections	Create a new precinct-split feature for the intersecting districts until no district crosses a precinct-split.	Resources: • Election Jurisdiction • Geographic Information System
1.1.4.5 Associate precinct-splits with districts and precinct	Associate the precinct-split with composing precincts and districts.	Resources: • Election Jurisdiction • Geographic Information System
1.1.4.7 Associate precinct-splits with address ranges	Associate the precinct-split with the address ranges it comprises.	Resources: • Election Jurisdiction • Geographic Information System

Name	Description	Properties
1.1.4.8 Split or combine address ranges as needed	Split or combine address ranges such that a given address range is associated with exactly one precinct-split.	Resources: • Election Jurisdiction • Geographic Information System

Process 1.1.5 Index Address to Precinct-Split

Index the addresses to their associated precinct-split.
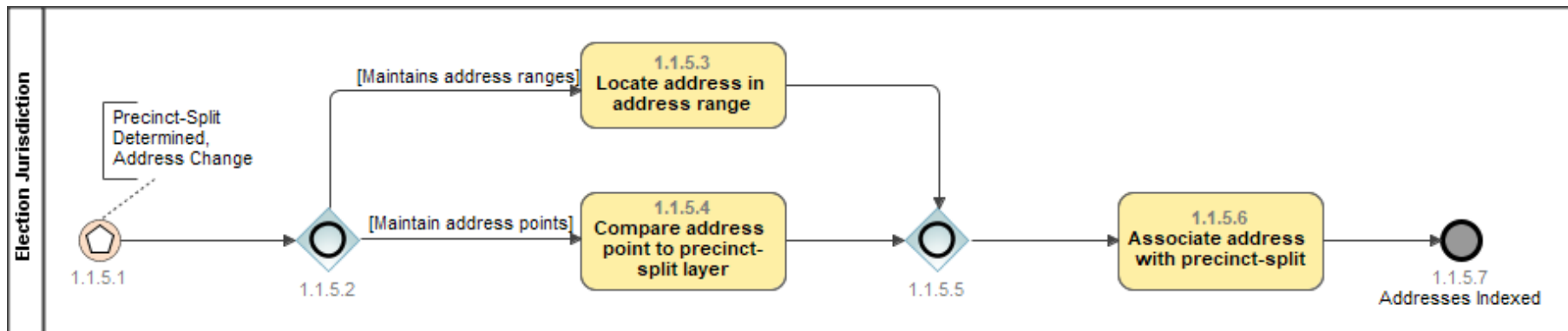
Diagram Index Address to Precinct-Split

Figure 6.   Index Address to Precinct-Split

Index the addresses to their associated precinct-split.

Process Activities:

Name	Description	Properties
1.1.5.3 Locate address in address range	Attempt to find an address range that the address falls into.	Resources: • Election Jurisdiction • Address Management System

Name	Description	Properties
1.1.5.4 Compare address point to precinct-split layer	Determine the precinct-split that the address falls into.	Resources: • Election Jurisdiction • Geographic Information System
1.1.5.6 Associate address with precinct-split	Assign the precinct-split to the address.	Resources: • Election Jurisdiction • Geographic Information System

Process 1.1.6 Develop Precinct Alternatives

Develop a set of precinct map alternatives.
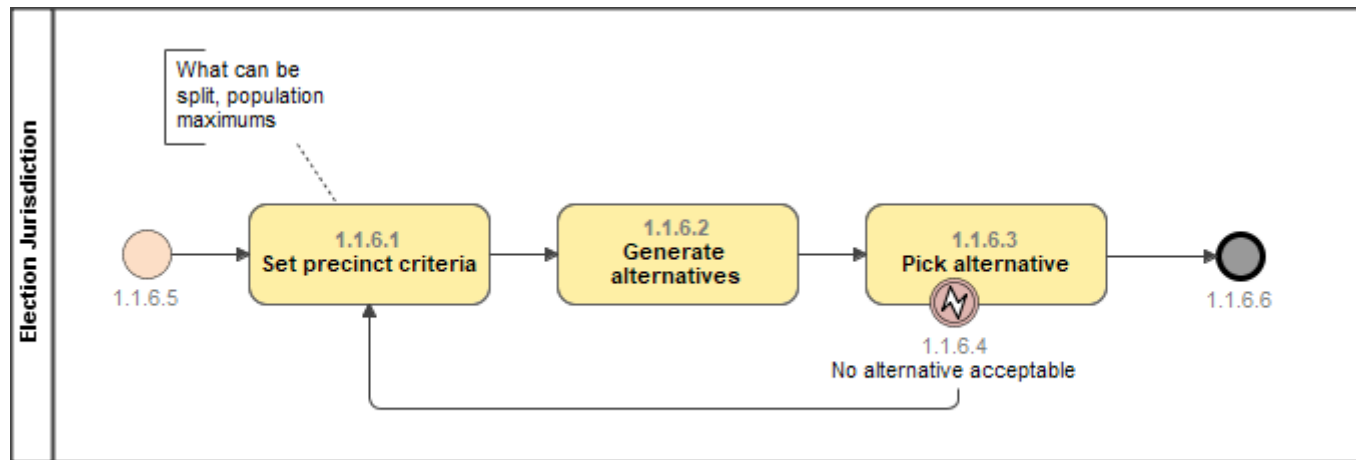
Diagram Develop Precinct Alternatives

Figure 7.   Develop Precinct Alternatives

Develop a set of precinct map alternatives.

Process Activities:

Name	Description	Properties
1.1.6.1 Set precinct criteria	Set the criteria for which precincts may be formed.	Resources: • Election Jurisdiction • Geographic Information System
1.1.6.2 Generate alternatives	Generate alternative precinct maps.	Resources: • Election Jurisdiction • Geographic Information System
1.1.6.3 Pick alternative	Pick one of the alternatives.	Resources: • Election Jurisdiction

Process 1.2.1 Register Voter

For states requiring registration in order to vote, register a voter such that their name appears on the list of eligible voters for the next election for which the voter is qualified.
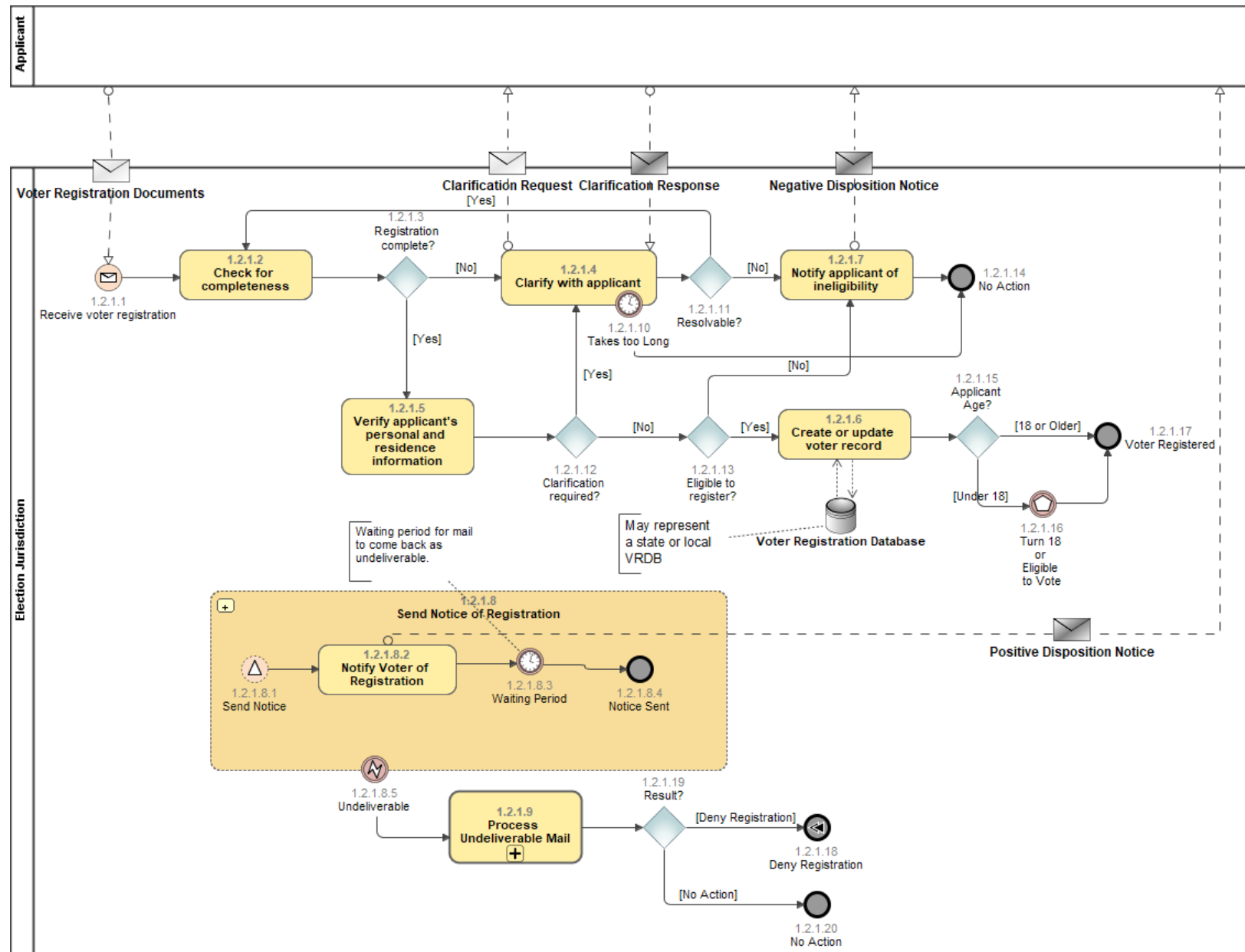
Diagram Register Voter

Applicant

Election Jurisdiction

Voter Registration Documents

Clarification Request   Clarification Response

Negative Disposition Notice

1.2.1.1
Receive voter registration

1.2.1.2
Check for completeness

1.2.1.3
Registration complete?

[No]

[Yes]

1.2.1.4
Clarify with applicant

1.2.1.10
Takes too Long

1.2.1.11
Resolvable?

[No]

[Yes]

1.2.1.7
Notify applicant of ineligibility

1.2.1.14
No Action

1.2.1.5
Verify applicant's personal and residence information

1.2.1.12
Clarification required?

[No]

1.2.1.13
Eligible to register?

[Yes]

1.2.1.6
Create or update voter record

1.2.1.15
Applicant Age?

[18 or Older]

1.2.1.17
Voter Registered

[Under 18]

1.2.1.16
Turn 18
or
Eligible to Vote

May represent
a state or local
VRDB

Voter Registration Database

Waiting period for mail
to come back as
undeliverable.

1.2.1.8
Send Notice of Registration

1.2.1.8.1
Send Notice

1.2.1.8.2
Notify Voter of Registration

1.2.1.8.3
Waiting Period

1.2.1.8.4
Notice Sent

1.2.1.8.5
Undeliverable

1.2.1.9
Process Undeliverable Mail

1.2.1.19
Result?

[Deny Registration]

1.2.1.18
Deny Registration

[No Action]

1.2.1.20
No Action

Positive Disposition Notice

40

Figure 8.   Register Voter

For states requiring registration in order to vote, register a voter such that their name appears on the list of eligible voters for the next election for which the voter is qualified.

Process Activities:

Name	Description	Properties
1.2.1.2 Check for completeness	Determine if the registration meets syntactic requirements - that it is prima facie valid.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.1.4 Clarify with applicant	The applicant may be contacted to resolve an issue in the voter registration documents provided.	Resources: • Election Jurisdiction
1.2.1.5 Verify applicant's personal and residence information	Verify that the applicant's personal and residence information meets the requirements to register to vote. For example, the date of birth may be verified to meet an age based eligibility requirement.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.1.6 Create or update voter record	Depending on whether the registration applies to an existing voter registration record or is a new registration, update the voter registration database to reflect the acceptance of the record.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.1.7 Notify applicant of ineligibility	If the election jurisdiction determines the applicant ineligible to register to vote, the applicant may be notified.	Resources: • Election Jurisdiction
1.2.1.8 Send Notice of Registration	Send a notice to the voter indicating their registration status.	Resources: • Election Jurisdiction
1.2.1.8.2 Notify Voter of Registration	Send a positive disposition notice. This notice may include such details as the voter's polling location, voting districts, and voter identification requirements.	Resources: • Election Jurisdiction
1.2.1.9 Process Undeliverable Mail	Call process undeliverable mail process.	Resources: • Election Jurisdiction Called Element: • Process Undeliverable Mail

Data used in Process:

Name	Description
Voter Registration Database [Voter Record]	Voter Record - A record representing all the known facts about a voter.

Process 1.2.2 Precinct Voter

Associate the voter with the precinct, such as for district or polling location assignment.
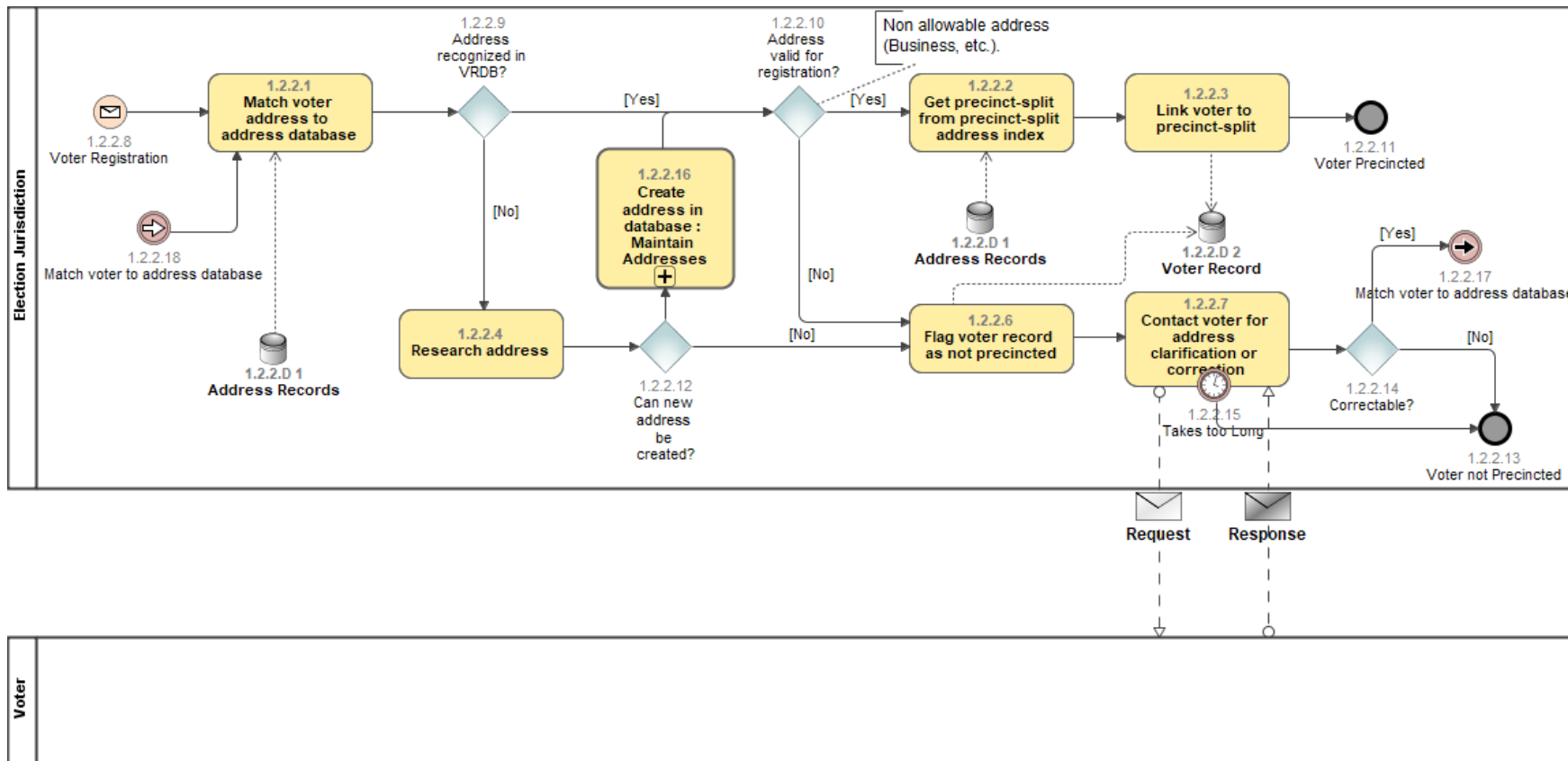
Diagram Precinct Voter

Figure 9.   Precinct Voter

Associate the voter with the precinct, such as for district or polling location assignment.

Process Activities:

| Name	Description	Properties
1.2.2.1 Match voter address to address database	Attempt to find a matching address in the voter registration database.	Resources: • Election Jurisdiction • Address Management System
1.2.2.2 Get precinct-split from precinct-split address index	Get the precinct-split from the precinct-split to address index.	Resources: • Election Jurisdiction • Address Management System • Voter Registration Database
1.2.2.3 Link voter to precinct-split	Link the associated precinct-split to the voter's record.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.2.4 Research address	Research the address provided. This may involve cross referencing multiple trusted sources of information, such as government databases.	Resources: • Election Jurisdiction
1.2.2.6 Flag voter record as not precincted	Flag the voter so that resolution can continue.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.2.7 Contact voter for address clarification or correction	Contact the voter for more information. For example, the address issue could be the result of a transcription error.	Resources: • Election Jurisdiction
1.2.2.16 Create address in database	Create a new address or range in the address database.	Resources: • Election Jurisdiction Called Element: • Maintain Addresses

Data used in Process:

Name	Description
Address Records [Address Record]	
Voter Record [Voter Record]	Voter Record - A record representing all the known facts about a voter.

Process 1.2.M1 Process Death Records

For each death notice received: look up a record in the voter registration database and remove the decedent from the list of eligible voters.
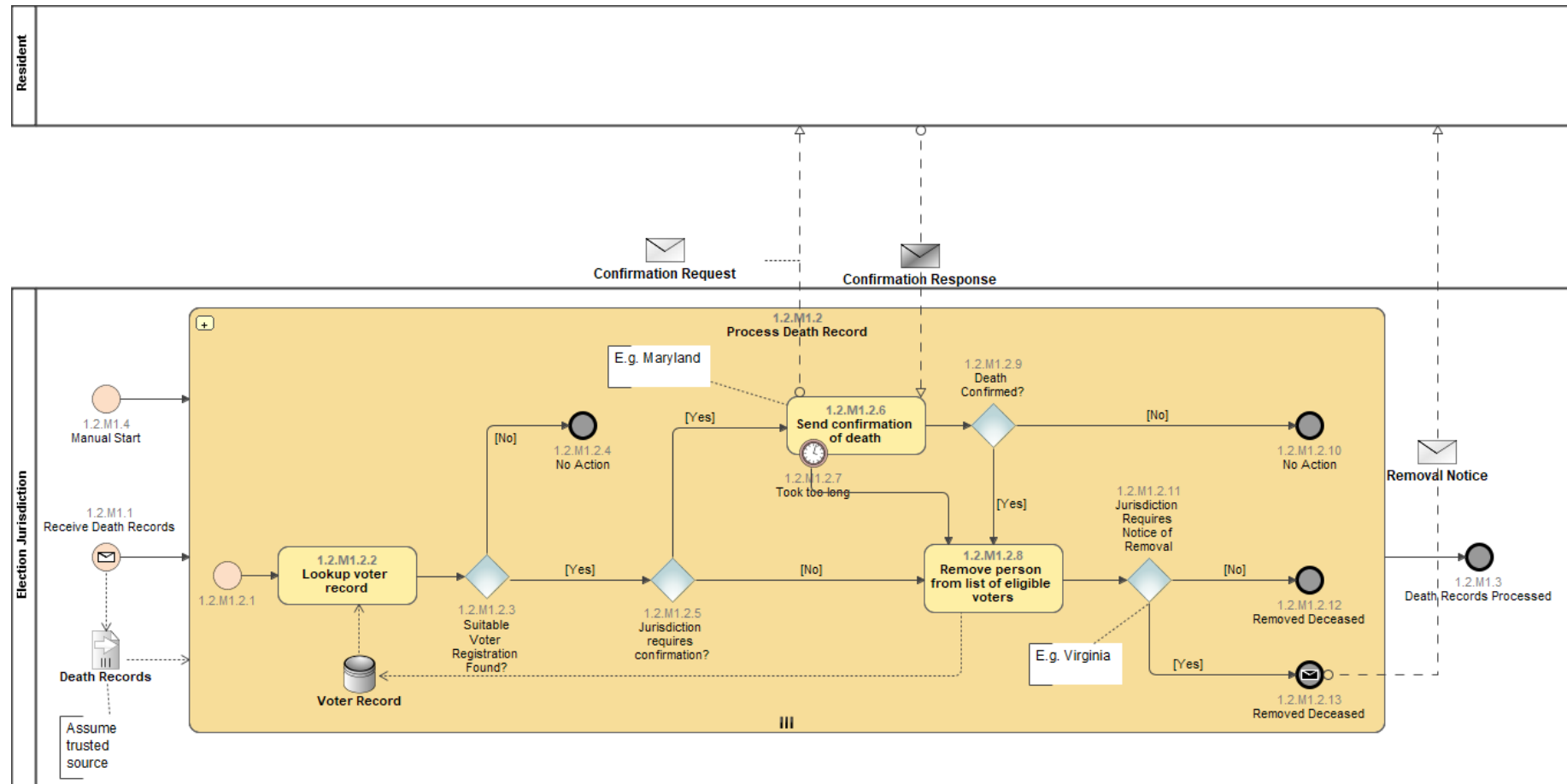
Diagram Process Death Records

Figure 10.   Process Death Records

For each death notice received: look up a record in the voter registration database and remove the decedent from the list of eligible voters.

Process Activities:

Name	Description	Properties
⊞ 1.2.M1.2 Process Death Record	Look up a record in the voter registration database and remove the decedent from the list of eligible voters.	Resources: • Election Jurisdiction
▭ 1.2.M1.2.2 Lookup voter record	The death notice may not pertain to an eligible record in the voter registration database. The election jurisdiction must find a matching record in order to proceed.	Resources: • Election Jurisdiction • Voter Registration Database
▭ 1.2.M1.2.6 Send confirmation of death	An election jurisdiction may require a confirmation of death be sent to the decedent's residence on file with the voter registration database. This starts a cure period in which the removal may be challenged.	Resources: • Election Jurisdiction
▭ 1.2.M1.2.8 Remove person from list of eligible voters	Remove the decedent from the list of eligible voters.	Resources: • Election Jurisdiction • Voter Registration Database

Data used in Process:

Name	Description
Death Records [▤ Death Record]	▤ Death Record - A record from a trusted source of death information, such as state department of health records, Social Security death index, NAPHSIS STEVE, etc.
Voter Record [▤ Voter Record]	▤ Voter Record - A record representing all the known facts about a voter.

Process 1.2.M10 Remove Non Citizens
Remove identified non-citizens from the list of eligible voters.

Process 1.2.M11 Process Cancellation Request
Remove voters wishing to cancel their registration from the list of eligible voters.

Process 1.2.M2 Confirmation Process
Confirm the location of the voter's current place of residence.
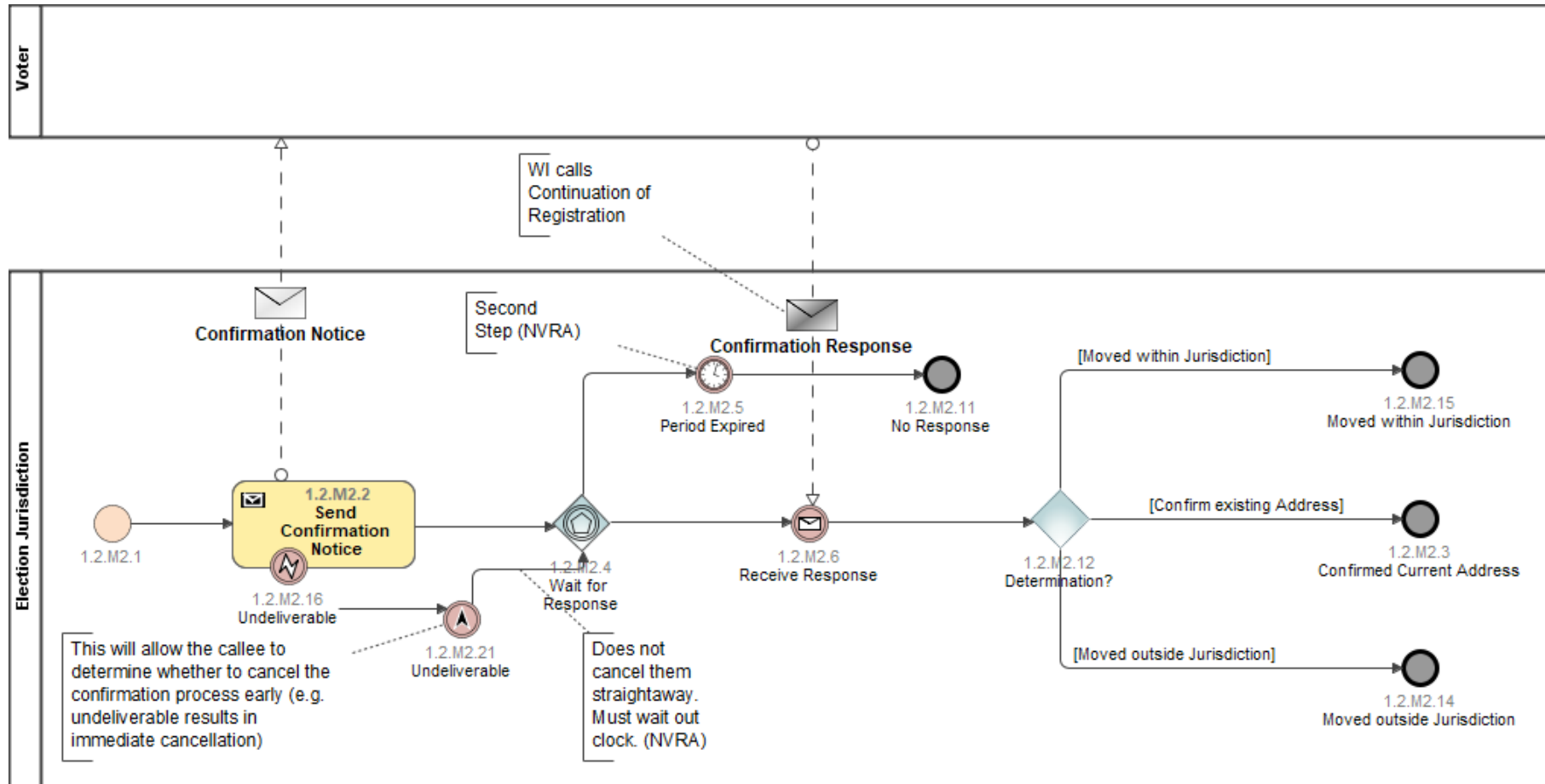
Diagram Confirmation Process

Figure 11.   Confirmation Process

Confirm the location of the voter's current place of residence.

Process Activities:

Name	Description	Properties
✉ 1.2.M2.2 Send Confirmation Notice	A confirmation notice is sent to the voter via forwardable mail (NVRA) or not (not NVRA).	Resources: • 👥 Election Jurisdiction

Process 1.2.M3 NVRA General Program

For each address update: Look up a record in the voter registration database, and confirm or update the voter's address.
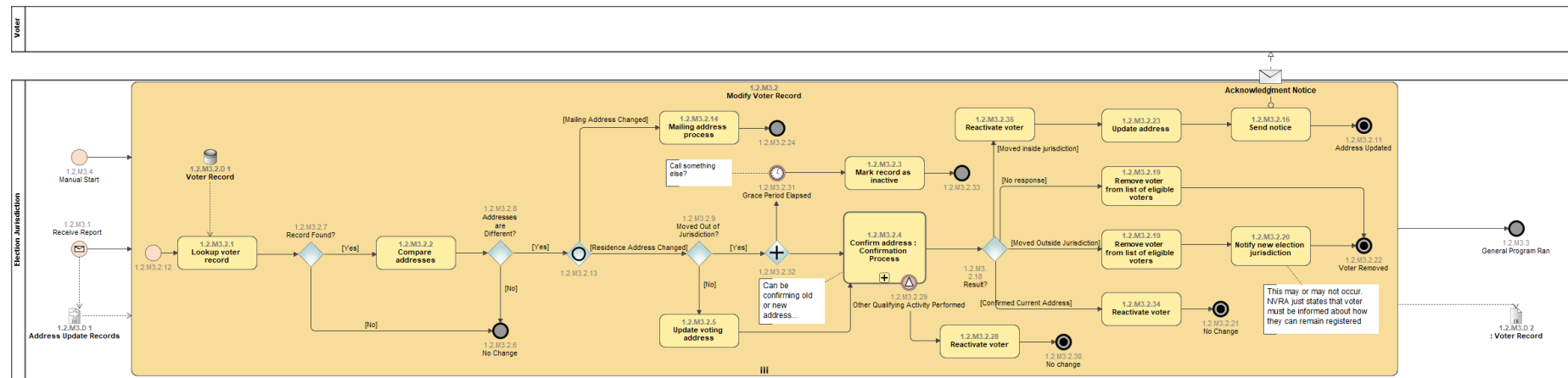
Diagram NVRA General Program

Figure 12.   NVRA General Program

For each address update: Look up a record in the voter registration database, and confirm or update the voter's address.

Process Activities:

Name	Description	Properties
⊞ 1.2.M3.2 Modify Voter Record	Look up a record in the voter registration database, and confirm or update the voter's address.	Resources: • 👥 Election Jurisdiction

Name	Description	Properties
1.2.M3.2.1 Lookup voter record	The address update may no longer pertain to a record in the voter registration database. The election jurisdiction must find a matching record in order to proceed.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.M3.2.2 Compare addresses	Even if the address update record shows a newer address, the current state of the voter's record needs to be examined. It is possible that the update has already been made by other means. This is because address update reports can become stale if they are not processed immediately.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.M3.2.3 Mark record as inactive	Mark record as subject to future removal.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.M3.2.4 Confirm address	Confirm the voter's address according to the confirmation process.	Resources: • Election Jurisdiction Called Element: • Confirmation Process
1.2.M3.2.5 Update voting address	Update the voting address to the new address identified by the address update record.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.M3.2.14 Mailing address process		Resources: • Election Jurisdiction
1.2.M3.2.16 Send notice	Send a positive disposition notice. This notice may include such details as the voter's polling location, voting districts, and voter identification requirements.	Resources: • Election Jurisdiction
1.2.M3.2.19 Remove voter from list of eligible voters	The voter's record in the previous election jurisdiction is removed from the list of eligible voters.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.M3.2.20 Notify new election jurisdiction	The previous jurisdiction may forward information to the new jurisdiction.	Resources: • Election Jurisdiction
1.2.M3.2.23 Update address	Update the voter's record to reflect the new address.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.M3.2.28 Reactivate voter	Remove the voter from a suspended status or otherwise indicate the voter's recent activity.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.M3.2.34 Reactivate voter		Resources: • Election Jurisdiction

Name	Description	Properties
⬭ 1.2.M3.2.35 Reactivate voter		Resources: • 🖼 Election Jurisdiction

Data used in Process:

Name	Description
🛢 Voter Record [⬚ Voter Record]	⬚ Voter Record - A record representing all the known facts about a voter.
📄 Address Update Records [⬚ List Maintenance Record]	⬚ List Maintenance Record - A record indicating a potential update to a voter's record from an external source or event.
📄 [⬚ Voter Record]	⬚ Voter Record - A record representing all the known facts about a voter.

Process 1.2.M4 Process Court Actions

For each court record: lookup a record in the voter registration database, and change the record's status according to the court action.

Diagram Process Court Actions

Figure 13.   Process Court Actions

For each court record: lookup a record in the voter registration database, and change the record's status according to the court action.

Process Activities:

Name	Description	Properties

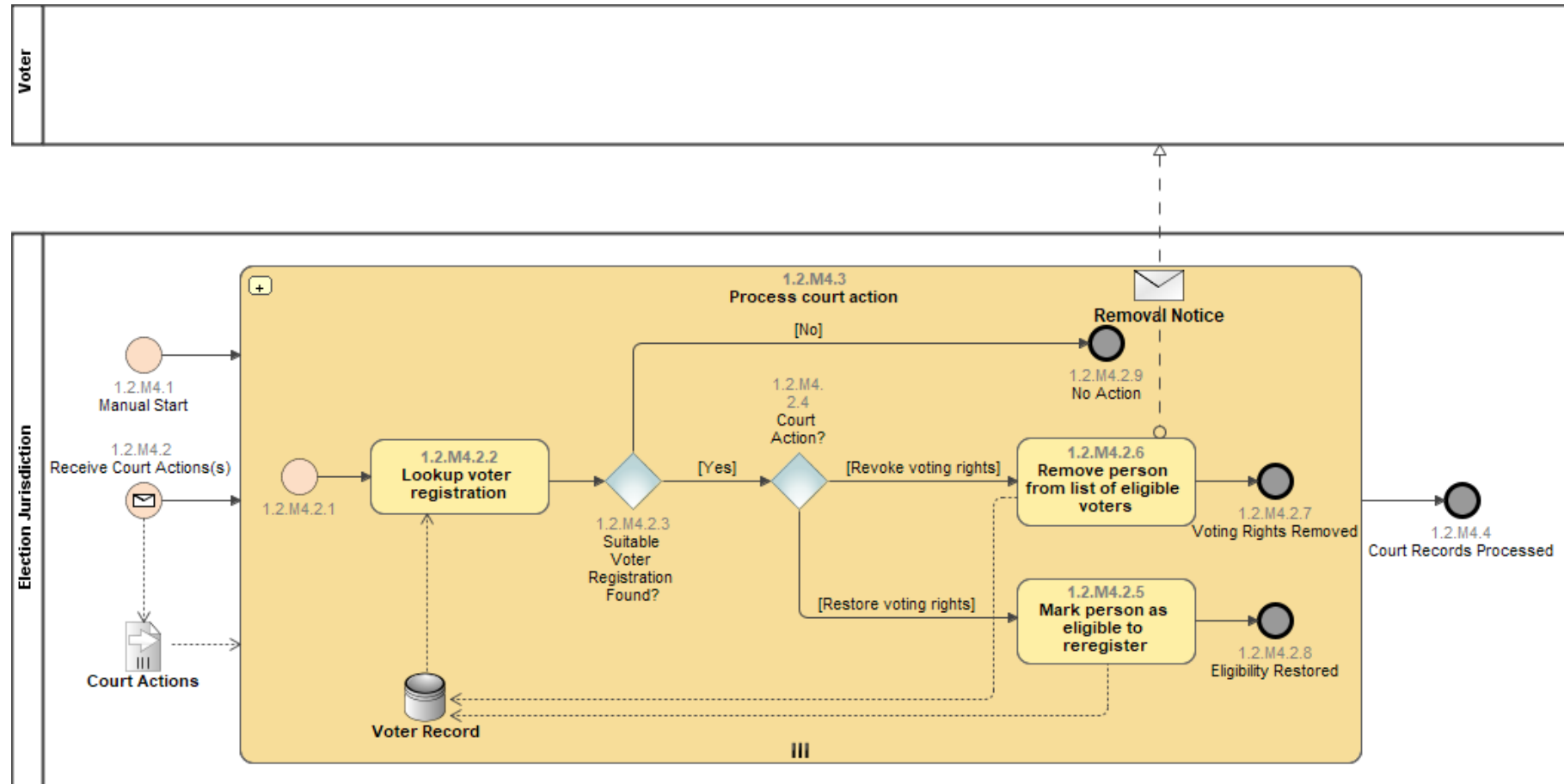| Name	Description	Properties
1.2.M4.2.2 Lookup voter registration	The court action may not pertain to an eligible record in the voter registration database. The election jurisdiction must find a matching record in order to proceed.	Resources: • Voter Registration Database • Election Jurisdiction
1.2.M4.2.5 Mark person as eligible to reregister	The matching record is not added to the list of eligible voters. Instead, if the voter registration database has a record of this person indicating ineligibility to register to vote by court action, the flag is removed or otherwise indicates eligibility to reregister.	Resources: • Election Jurisdiction • Voter Registration Database
1.2.M4.2.6 Remove person from list of eligible voters	The disenfranchised is removed from the list of eligible voters.	Resources: • Voter Registration Database • Election Jurisdiction
1.2.M4.3 Process court action	Lookup a record in the voter registration database, and change the record's status according to the court action.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description
Court Actions [Court Record]	Court Record - A court action that may require a change to a voter's record.
Voter Record [Voter Record]	Voter Record - A record representing all the known facts about a voter.

Process 1.2.M6 Process Duplicate Report

Process a report identifying potential duplicate records for the same voter.

Process 1.2.M7 Process Non Participation

For each eligible voter: Determine if a voter's lack of participation in the electoral process should begin a list maintenance process.

Diagram Process Non Participation
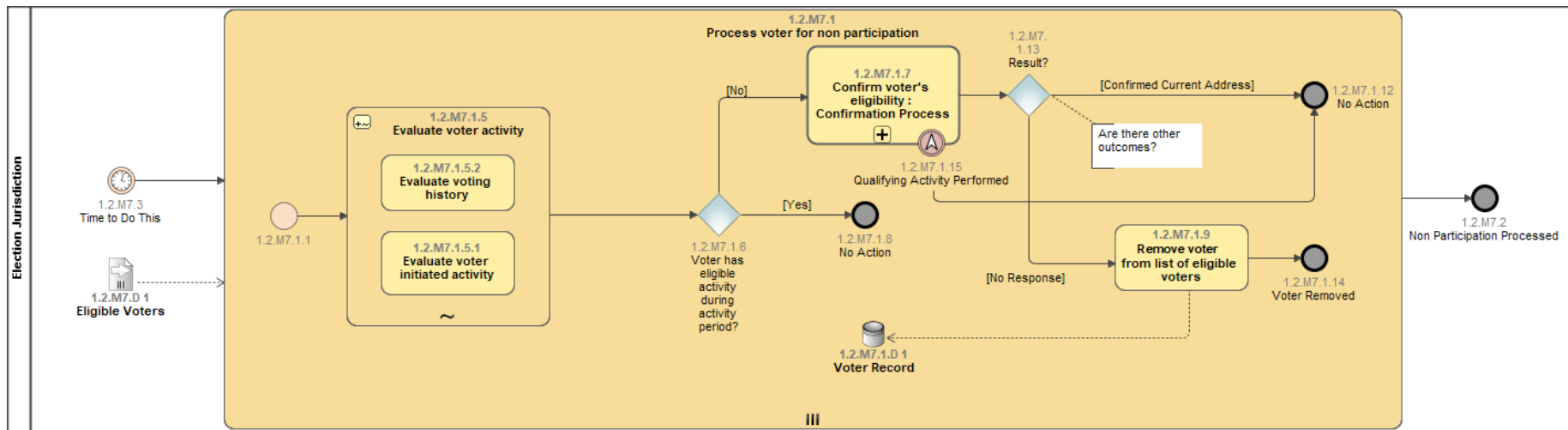
Figure 14.   Process Non Participation

For each eligible voter: Determine if a voter's lack of participation in the electoral process should begin a list maintenance process.

Process Activities:

Name	Description	Properties
⊞ 1.2.M7.1 Process voter for non participation	Determine if a voter's lack of participation in the electoral process should begin a list maintenance process.	Resources: • Election Jurisdiction
⊞~ 1.2.M7.1.5 Evaluate voter activity	Determine if the voter has any qualifying activity during the activity period.	Resources: • Election Jurisdiction
▭ 1.2.M7.1.5.1 Evaluate voter initiated activity	Determine if the voter has any qualifying activity during the activity period. This is jurisdiction defined, but can include signing a petition or filling out a voter registration.	Resources: • Election Jurisdiction • Voter Registration Database
▭ 1.2.M7.1.5.2 Evaluate voting history	Determine if the voter has voting history (i.e. voted or appeared to vote) during the activity period.	Resources: • Election Jurisdiction • Voter Registration Database
▭ 1.2.M7.1.7 Confirm voter's eligibility	Lack of voter activity may indicate that the voter has moved. The confirmation process is started to verify the voter's eligibility.	Called Element: • Confirmation Process

Name	Description	Properties
1.2.M7.1.9 Remove voter from list of eligible voters	If the voter is not confirmed, they are removed from the list of eligible voters.	Resources: • Election Jurisdiction • Voter Registration Database

Data used in Process:

Name	Description
Voter Record [Voter Record]	Voter Record - A record representing all the known facts about a voter.
Eligible Voters [Voter Record]	Voter Record - A record representing all the known facts about a voter.

Process 1.2.M8 Process Undeliverable Mail

Process mail originating from the election jurisdiction that has been returned as undeliverable.

Process 1.2.M9 Perform Motor Vehicle/SSA Matching

Try to match the voter's record against information on file with the motor vehicle authority and Social Security Administration.

Diagram Perform Motor Vehicle/SSA Matching
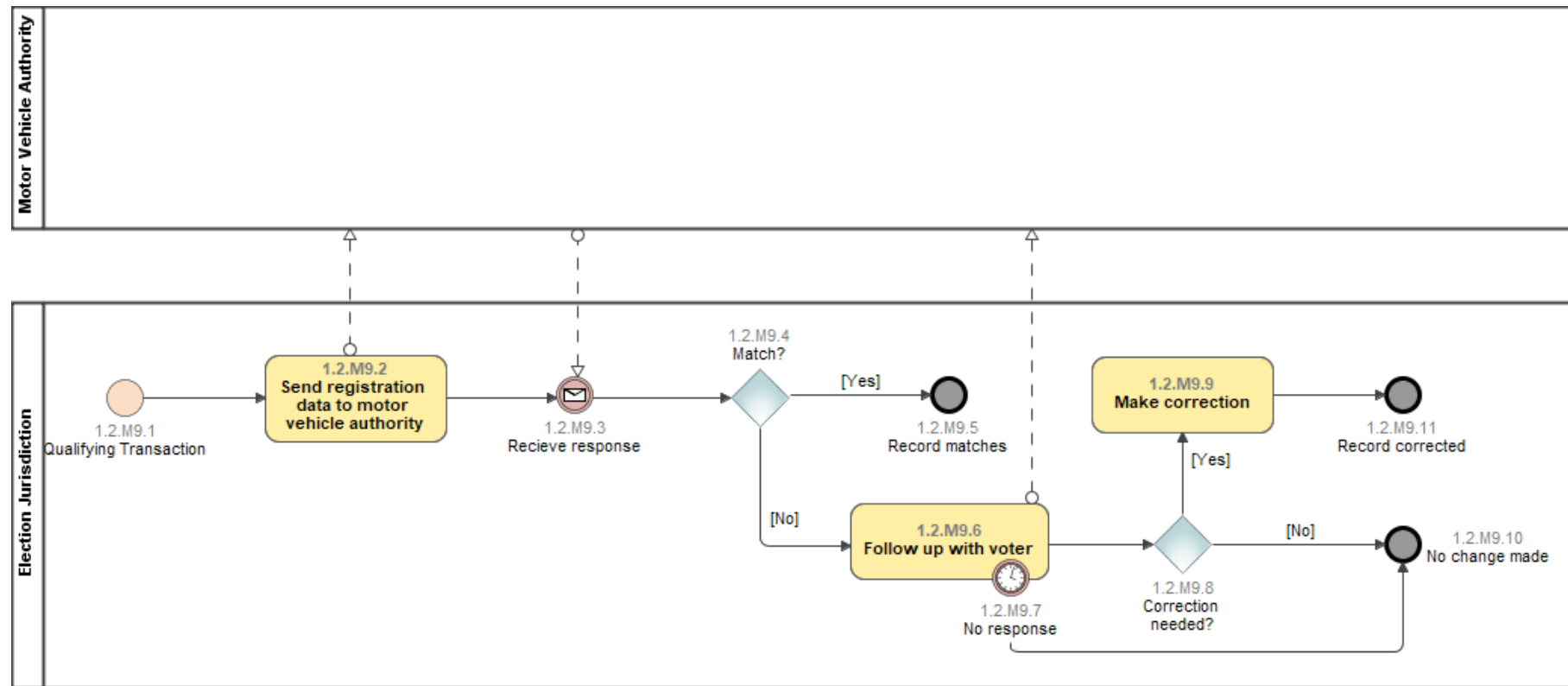
Figure 15.   Perform Motor Vehicle/SSA Matching

Process Activities:

Name	Description	Properties
1.2.M9.2 Send registration data to motor vehicle authority	Identifying information such as name, date of birth, drivers license, social security number is sent to the motor vehicle authority.	Resources: • Election Jurisdiction
1.2.M9.6 Follow up with voter	Contact the voter regarding the non-match.	Resources: • Election Jurisdiction
1.2.M9.9 Make correction	If non-match is due to a typographic or other error, the voter record is corrected.	Resources: • Election Jurisdiction

Process 1.3.1 Identify Contests

Identify the contests that may appear on an upcoming election's ballot.

Diagram Identify Contests

Figure 16.   Identify Contests

Identify the contests that may appear on an upcoming election's ballot.

Process Activities:

Name	Description	Properties

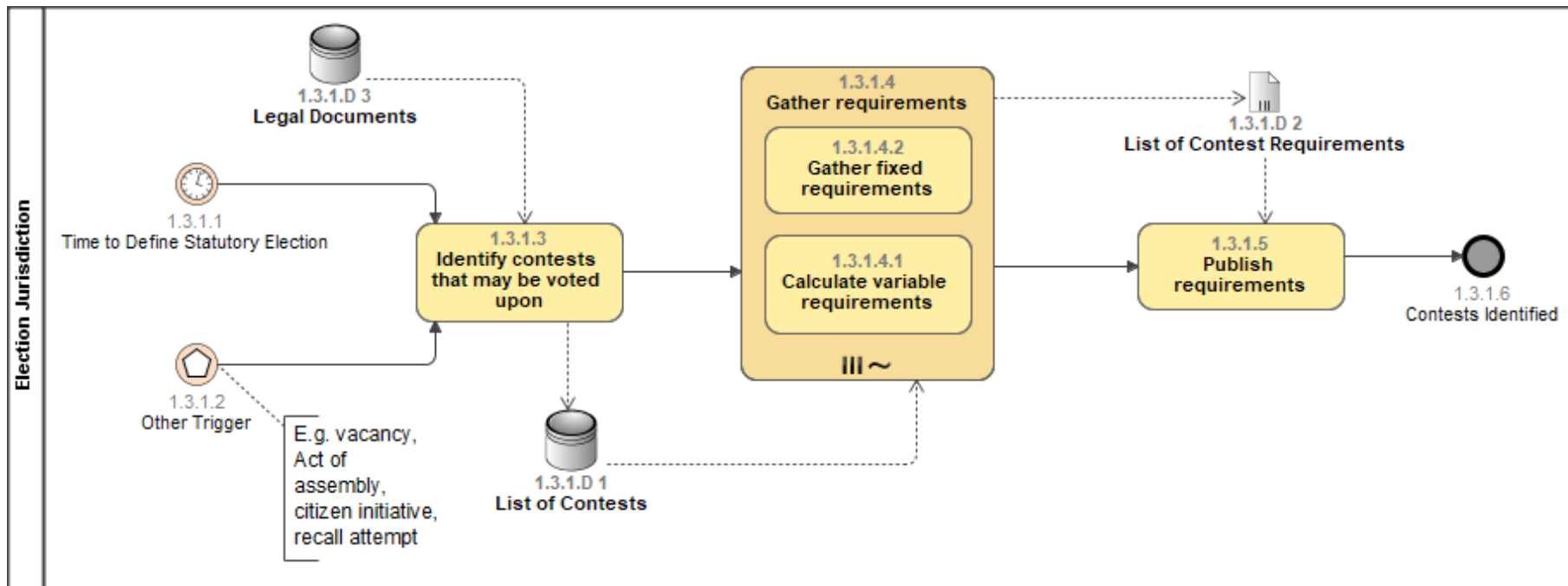| Name	Description	Properties
1.3.1.3 Identify contests that may be voted upon	Identify the contests that may appear on the ballot of an upcoming election. This is determined by a range of factors, including the terms of office, the number of office seats, partisan status, etc.	Resources: • Election Jurisdiction • Election Management System
1.3.1.4 Gather requirements	Gather requirements for a candidate or issue to appear on the ballot. These requirements may come from federal, state and local law.	Resources: • Election Jurisdiction
1.3.1.4.1 Calculate variable requirements	Calculate the requirements that are defined by formula, such as a filing fee based on salary, or a minimum number of valid signatures based on past turnout.	Resources: • Election Jurisdiction
1.3.1.4.2 Gather fixed requirements	Gather the requirements that do not change based on external factors. These may include age, residency requirements, and a filing fee, if it is fixed.	Resources: • Election Jurisdiction
1.3.1.5 Publish requirements	Make the requirements for filing available to interested parties.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description
List of Contests [Contest Record]	
List of Contest Requirements [Contest Requirement]	
Legal Documents [Document]	

Process 1.3.2 Receive Election Filing

Receive a document package indicating potential eligibility to appear on the ballot for an upcoming election.

Diagram Receive Election Filing

Figure 17.   Receive Election Filing

Receive a document package indicating potential eligibility to appear on the ballot for an upcoming election.

Process Activities:
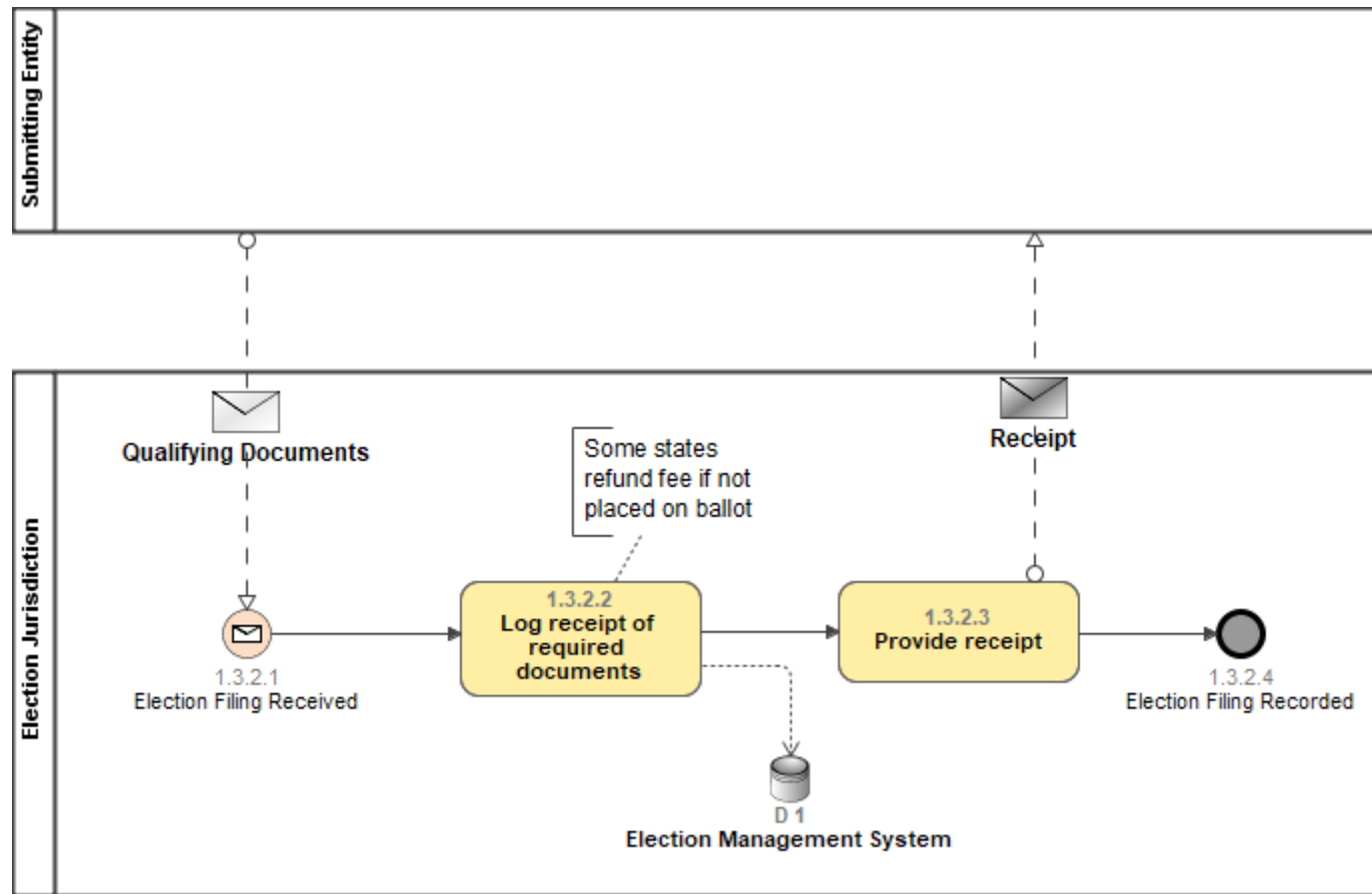
Name	Description	Properties

Name	Description	Properties
▢ 1.3.2.2 Log receipt of required documents	The conveyance of the qualifying documents is indicated by the election jurisdiction, usually by placing an imprint (e.g. a timestamp) on the documents. The election jurisdiction may then record the receipt of the required documents, potentially including filing fees, petitions, or affidavits.	Resources: • 🖼 [Election Jurisdiction](#) • 🖼 [Election Management System](#)
▢ 1.3.2.3 Provide receipt	A receipt of the transaction is provided to the submitting entity.	Resources: • 🖼 [Election Jurisdiction](#)

Data used in Process:

Name	Description
🗄 Election Management System [▦ Candidate Record]	▦ Candidate Record - A record containing all the known facts about a candidate. If the candidate is also a voter within the election authority, then this record is a superset of the voter registration record.

Process 1.3.3 Qualify Contests and Candidates

Qualify the contests and candidates that may appear on the ballot.

Diagram Qualify Contests and Candidates
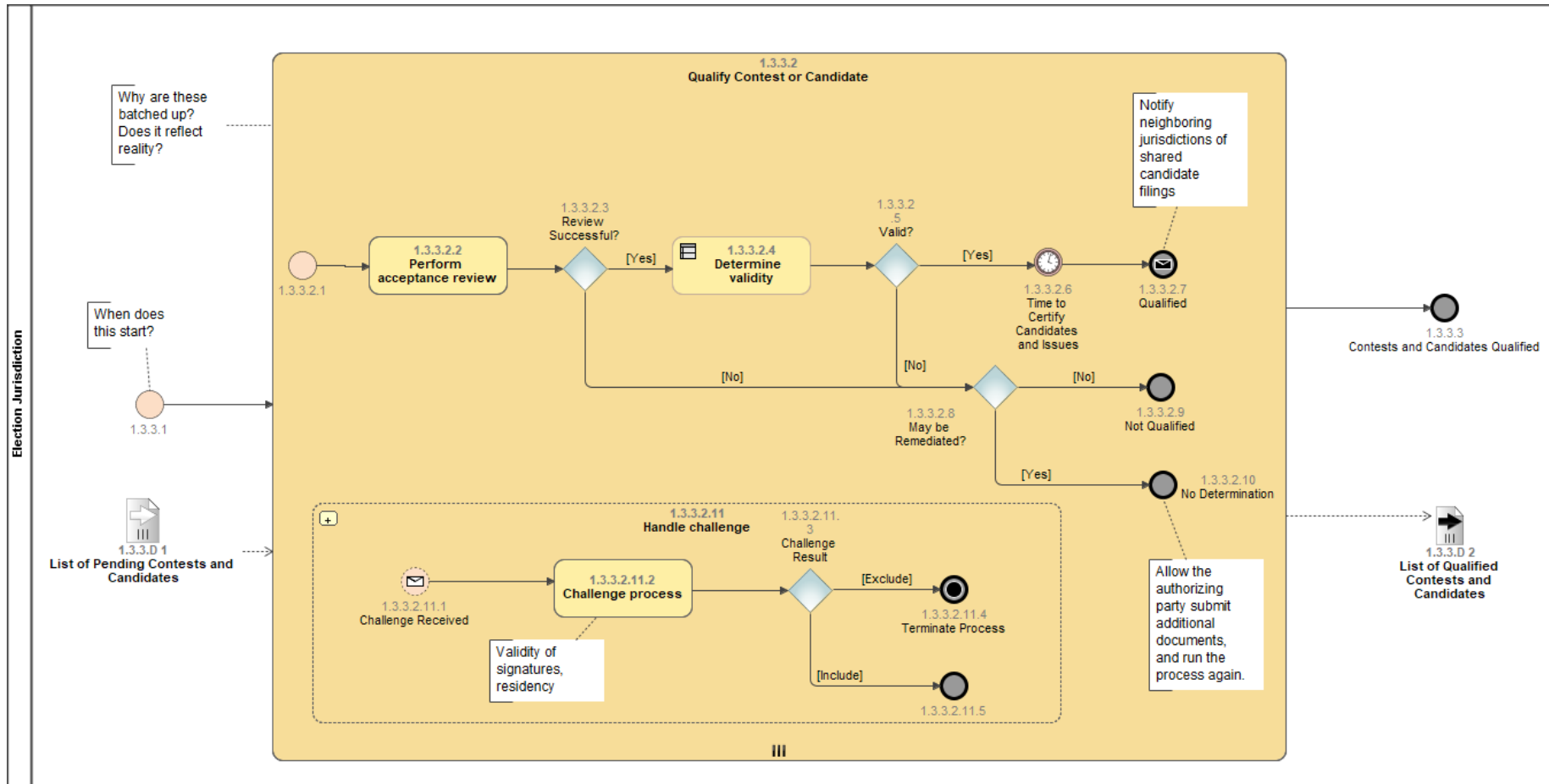
Figure 18.   Qualify Contests and Candidates

Qualify the contests and candidates that may appear on the ballot.

Process Activities:

Name	Description	Properties
⊞ 1.3.3.2 Qualify Contest or Candidate	Qualify the contest or candidate that may appear on the ballot.	Resources: • Election Jurisdiction

| Name	Description	Properties
1.3.3.2.2 Perform acceptance review	Perform a prima facie review. This may include verifying that the filing was timely, that the forms have been filled out and that the minimum number of signatures have been collected.	Resources: • Election Jurisdiction
1.3.3.2.4 Determine validity	Perform additional validity checks as required. This may include petition validation.	Resources: • Election Jurisdiction
1.3.3.2.11 Handle challenge		
1.3.3.2.11.2 Challenge process	A process that provides means for an objection to the certification of a candidate or issue to be adjudicated.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description
List of Pending Contests and Candidates [Candidate Record]	Candidate Record - A record containing all the known facts about a candidate. If the candidate is also a voter within the election authority, then this record is a superset of the voter registration record.
List of Qualified Contests and Candidates [Candidate Record]	Candidate Record - A record containing all the known facts about a candidate. If the candidate is also a voter within the election authority, then this record is a superset of the voter registration record.

Process 1.3.4 Schedule Election

Fix a date for the election to be held.

Diagram Schedule Election
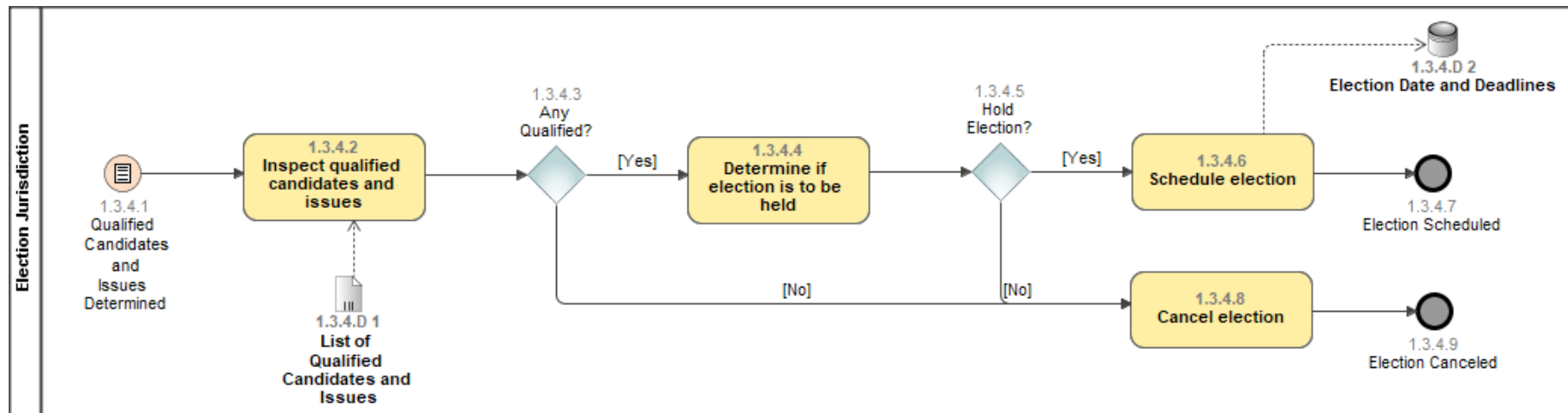
Figure 19.   Schedule Election
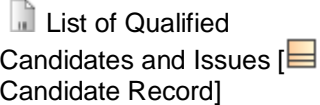
Fix a date for the election to be held.

Process Activities:

Name	Description	Properties
1.3.4.2 Inspect qualified candidates and issues	Inspect the list of candidates and issues to determine if any qualified.	Resources: • Election Jurisdiction
1.3.4.4 Determine if election is to be held	In some jurisdictions, certain elections (e.g. nominating elections) may not be held if the number of candidates does not exceed number to be elected for all offices appearing on the ballot.	Resources: • Election Jurisdiction
1.3.4.6 Schedule election	Schedule the election at a regularly defined time or in some circumstances, such as vacancy or recall, a special time determined by law or policy.	Resources: • Election Jurisdiction
1.3.4.8 Cancel election	Cancel the election. However, even if a nominating election is canceled, nomination of candidates may still occur.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description

Name	Description
List of Qualified Candidates and Issues [Candidate Record]	Candidate Record - A record containing all the known facts about a candidate. If the candidate is also a voter within the election authority, then this record is a superset of the voter registration record.
Election Date and Deadlines [Election]	

Process 1.4.1 Determine Ballot Styles

Identify the precincts that are used in the conduct of the election (e.g. in the establishing of polling locations or the reporting of results).
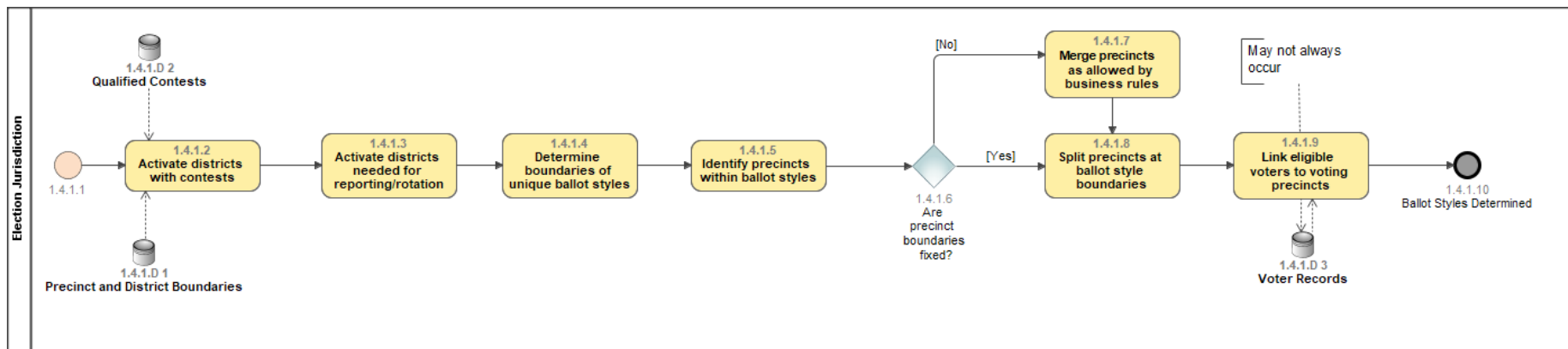
Diagram Determine Ballot Styles

Figure 20.   Determine Ballot Styles

Identify the precincts that are used in the conduct of the election (e.g. in the establishing of polling locations or the reporting of results).

Process Activities:

Name	Description	Properties
1.4.1.2 Activate districts with contests	Activate districts constituting the boundaries in which contests may appear.	Resources: • Election Jurisdiction

Name	Description	Properties
▭ 1.4.1.3 Activate districts needed for reporting/rotation	Activate districts that are required other purposes, such as reporting a contest reports by an intersecting geopolitical unit, or rotation based on a contained geopolitical unit.	Resources: • 🗺 Election Jurisdiction
▭ 1.4.1.4 Determine boundaries of unique ballot styles	Determine the boundaries of unique ballot styles. This is done by creating a new ballot style each time one activated district's geometry intersects another.	Resources: • 🗺 Election Jurisdiction
▭ 1.4.1.5 Identify precincts within ballot styles	Identify the registration precincts that intersect the ballot styles.	Resources: • 🗺 Election Jurisdiction
▭ 1.4.1.7 Merge precincts as allowed by business rules	Merge registration precincts to form larger voting precincts.	Resources: • 🗺 Election Jurisdiction
▭ 1.4.1.8 Split precincts at ballot style boundaries	If the merging operation does not eliminate splits, split the precincts until there is a single precinct split for each unique ballot style.	Resources: • 🗺 Election Jurisdiction
▭ 1.4.1.9 Link eligible voters to voting precincts	If the election jurisdiction uses voting precincts different from registration precincts, link the voters such that the proper ballot can be issued.	Resources: • 🗺 Election Jurisdiction

Data used in Process:

Name	Description
🗄 Precinct and District Boundaries [▭ Geospatial Feature]	
🗄 Qualified Contests [▭ Contest Record]	
🗄 Voter Records [▭ Voter Record]	▭ Voter Record - A record representing all the known facts about a voter.

Process 1.4.2 Recruit Polling Locations

Recruit locations that can serve as polling locations during the election. The criteria to recruit a polling location may include several factors, such as accessibility, parking, and proximity to the voters it will serve.

Process 1.4.3 Recruit Poll Workers

Recruit the poll workers who are required to conduct the election.

Process 1.4.4 Survey Polling Locations

Survey polling locations for suitability, such as accessibility, capacity, and geographic location.

Process 1.4.5 Setup Polling Locations

Setup the polling locations so that they are ready for voting during the election period.

Process 1.5.1 Lay Out Ballots

For each ballot style: select the contests and selections to appear on the ballot and apply business rules determining their order and location.
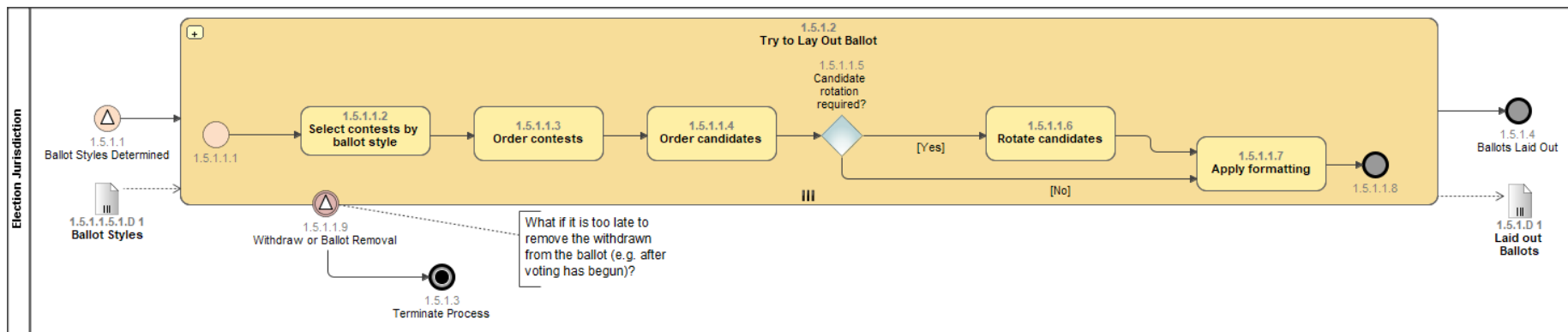
Diagram Lay Out Ballots

Figure 21.   Lay Out Ballots

For each ballot style: select the contests and selections to appear on the ballot and apply business rules determining their order and location.

Process Activities:

Name	Description	Properties
▭ 1.5.1.1.2 Select contests by ballot style	Select the contests appearing on this ballot style.	Resources: • 👥 Election Jurisdiction

| Name	Description	Properties
🗋 1.5.1.1.3 Order contests	Put the contests in the relative order prescribed by law or policy.	Resources: • 🖼 Election Jurisdiction
🗋 1.5.1.1.4 Order candidates	Order the candidates within a contest (e.g. alphabetically, by name, party, etc.).	Resources: • 🖼 Election Jurisdiction
🗋 1.5.1.1.6 Rotate candidates	Reorder the candidates from their original ordering by a fixed offset.	Resources: • 🖼 Election Jurisdiction
🗋 1.5.1.1.7 Apply formatting	Apply formatting to the ballot. This may include applying fonts, setting line widths, applying page and column break rules, colors, etc.	Resources: • 🖼 Election Jurisdiction
⊞ 1.5.1.2 Try to Lay Out Ballot	Try to select the contests and options to appear on a ballot and apply business rules determining their order and location.	Resources: • 🖼 Election Jurisdiction

Data used in Process:

Name	Description
🗋 Ballot Styles [🗄 Ballot Style Data]	
🗋 Laid out Ballots [🗄 Ballot Style Data]	

Process 1.5.2 Print Ballots

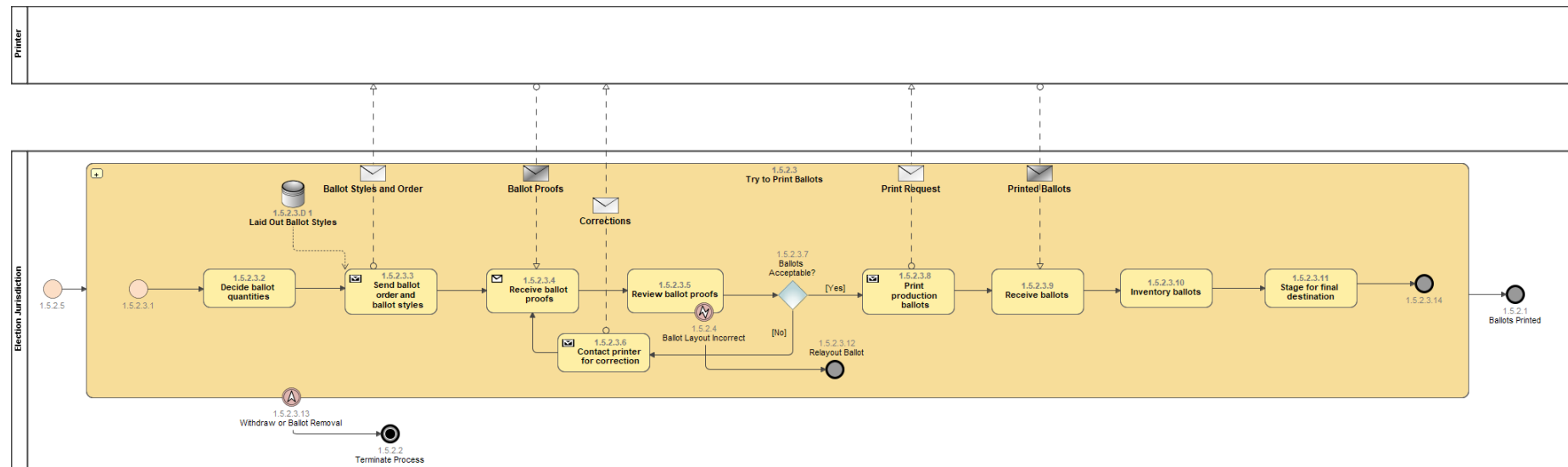Print ballots consisting of the ballot styles for the election.

Diagram Print Ballots

Figure 22.   Print Ballots

Print ballots consisting of the ballot styles for the election.

Process Activities:

Name	Description	Properties
⊞ 1.5.2.3 Try to Print Ballots	Try to print ballots consisting of the ballot styles for the upcoming election.	Resources: • Election Jurisdiction
▭ 1.5.2.3.2 Decide ballot quantities	Decide the number of ballots to order for each ballot style. There may be minimum quantities and additional rules determined by law or policy.	Resources: • Election Jurisdiction
✉ 1.5.2.3.3 Send ballot order and ballot styles	Send the ballot order and associated ballot styles to the printer.	Resources: • Election Jurisdiction
✉ 1.5.2.3.4 Receive ballot proofs	Receive the ballot proofs from the printer. The proofs may contain additional markings indicating their preproduction purpose.	Resources: • Election Jurisdiction
▭ 1.5.2.3.5 Review ballot proofs	Perform proofing tasks, such as checking spelling, layout and rotation, if applicable. The proofing should be against trusted source material.	Resources: • Election Jurisdiction
✉ 1.5.2.3.6 Contact printer for correction	Contact the printer with a list of defects or corrections so that the printer may reprint.	Resources: • Election Jurisdiction

Name	Description	Properties
1.5.2.3.8 Print production ballots	Notify the printer that the production print job may begin.	Resources: • Election Jurisdiction
1.5.2.3.9 Receive ballots	Receive the production ballots from the printer.	Resources: • Election Jurisdiction
1.5.2.3.10 Inventory ballots	Inventory the ballots such that the ballot styles and the quantities ordered can be verified.	Resources: • Election Jurisdiction
1.5.2.3.11 Stage for final destination	Prepare the ballots for delivery to their final destination.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description
Laid Out Ballot Styles [Ballot Style Data]	

Process 1.5.3 Publish Sample Ballots

Publish sample ballots containing the contests and selections to be voted on.
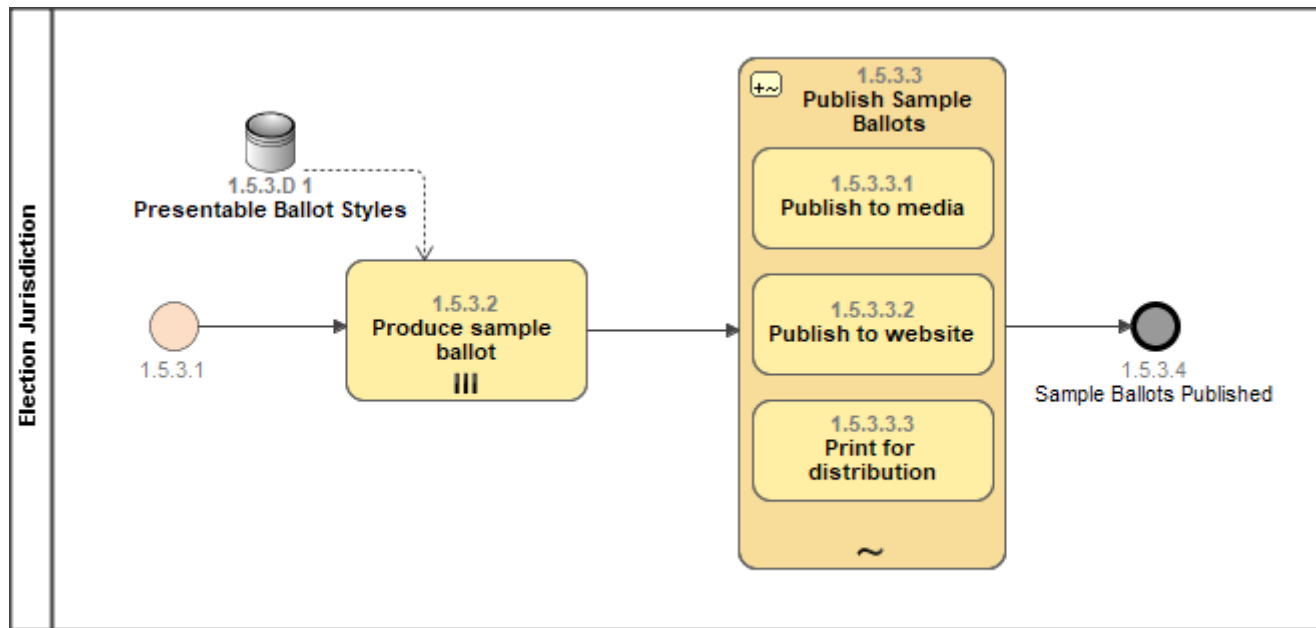
Diagram Publish Sample Ballots

Figure 23.   Publish Sample Ballots

Publish sample ballots containing the contests and selections to be voted on.

Process Activities:

Name	Description	Properties
1.5.3.2 Produce sample ballot	Produce a sample ballot. At a minimum a sample ballot should contain the contests and candidates that will appear on the official ballot. A higher fidelity sample ballot will take the form of an official ballot with some of the features that make it countable removed.	Resources: • Election Jurisdiction
1.5.3.3 Publish Sample Ballots	Publish the sample ballot over multiple channels.	Resources: • Election Jurisdiction
1.5.3.3.1 Publish to media	Provide sample ballots to the media for general distribution.	Resources: • Election Jurisdiction
1.5.3.3.2 Publish to website	Publish sample ballots to election authority's website.	Resources: • Election Jurisdiction

Name	Description	Properties
🠦 1.5.3.3.3 Print for distribution	Print sample ballots for distribution to interested parties.	Resources: • 🠦 Election Jurisdiction

Data used in Process:

Name	Description
🠦 Presentable Ballot Styles [Presentable Ballot Style]	

Process 1.5.4 Create Eligible Voter List

Derive the list of eligible voters from the voter registration database.
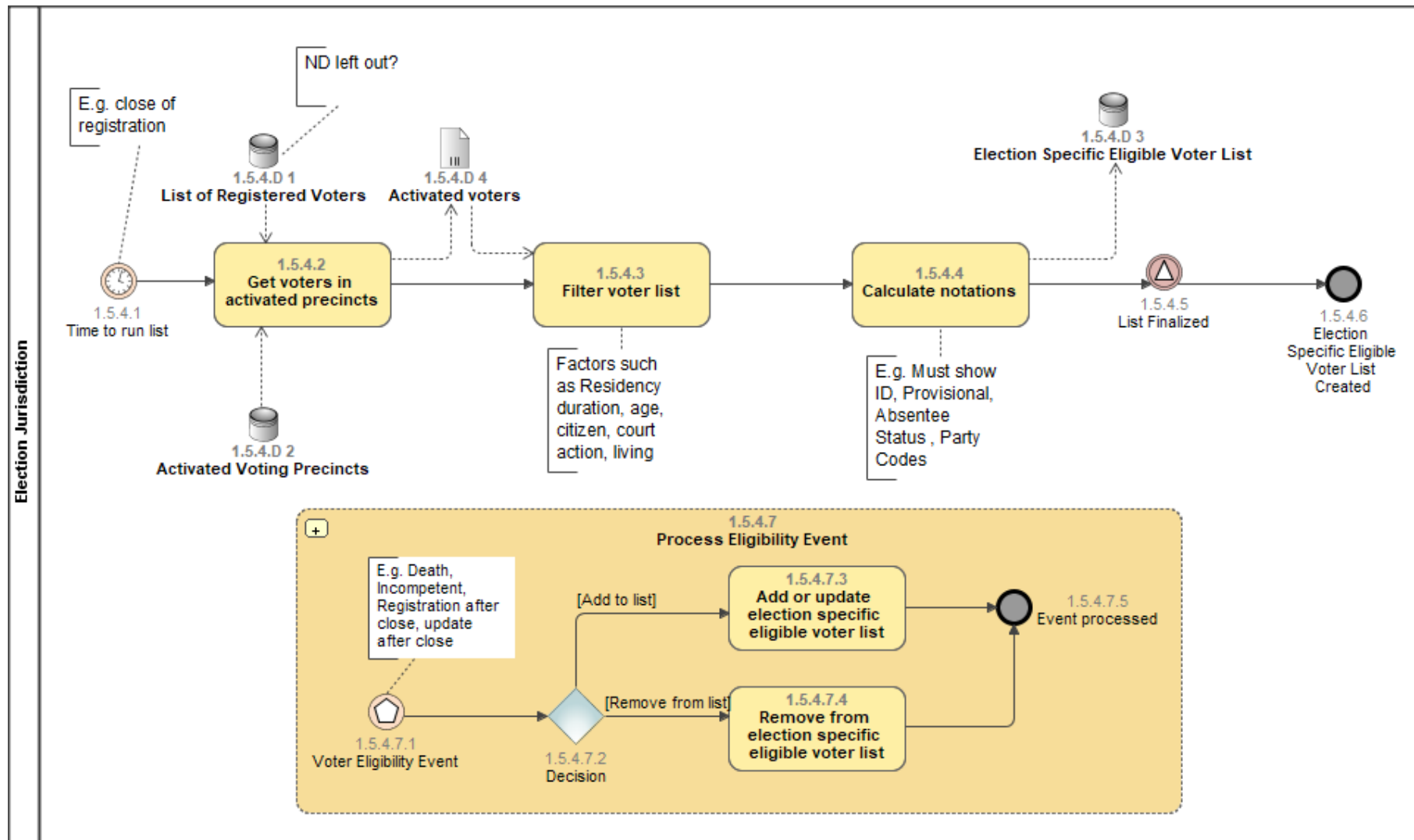
Diagram Create Eligible Voter List

Figure 24.   Create Eligible Voter List

Create a list of those who are eligible or may be eligible to vote.

Process Activities:

Name	Description	Properties
▭ 1.5.4.2 Get voters in activated precincts	Extract from the list of registered voters those whose assigned voting precinct is activated in the election.	Resources: • 🖳 Election Jurisdiction
▭ 1.5.4.3 Filter voter list	Filter out voters in the list of registered voters who are not eligible to vote in this election. For example, some voters on the list may be too young to vote.	Resources: • 🖳 Election Jurisdiction
▭ 1.5.4.4 Calculate notations	Calculate the notations that indicate additional information about the voter's eligibility. For example, in a closed primary state, the voter's party may be listed.	Resources: • 🖳 Election Jurisdiction
⊞ 1.5.4.7 Process Eligibility Event		Resources: • 🖳 Election Jurisdiction
▭ 1.5.4.7.3 Add or update election specific eligible voter list		Resources: • 🖳 Election Jurisdiction
▭ 1.5.4.7.4 Remove from election specific eligible voter list		Resources: • 🖳 Election Jurisdiction

Data used in Process:

Name	Description
🗄 List of Registered Voters [▤ Voter Record]	▤ Voter Record - A record representing all the known facts about a voter.
🗄 Activated Voting Precincts [▤ Geospatial Feature]	
🗄 Election Specific Eligible Voter List [▤ Voter Record]	▤ Voter Record - A record representing all the known facts about a voter.
▯ Activated voters [▤ Voter Record]	▤ Voter Record - A record representing all the known facts about a voter.

Process 1.5.5 Prepare Poll Books

Prepare poll books for use during the election.

Diagram Prepare Poll Books

Figure 25.   Prepare Poll Books

Prepare poll books for use during the election.

Process Activities:

Name	Description	Properties

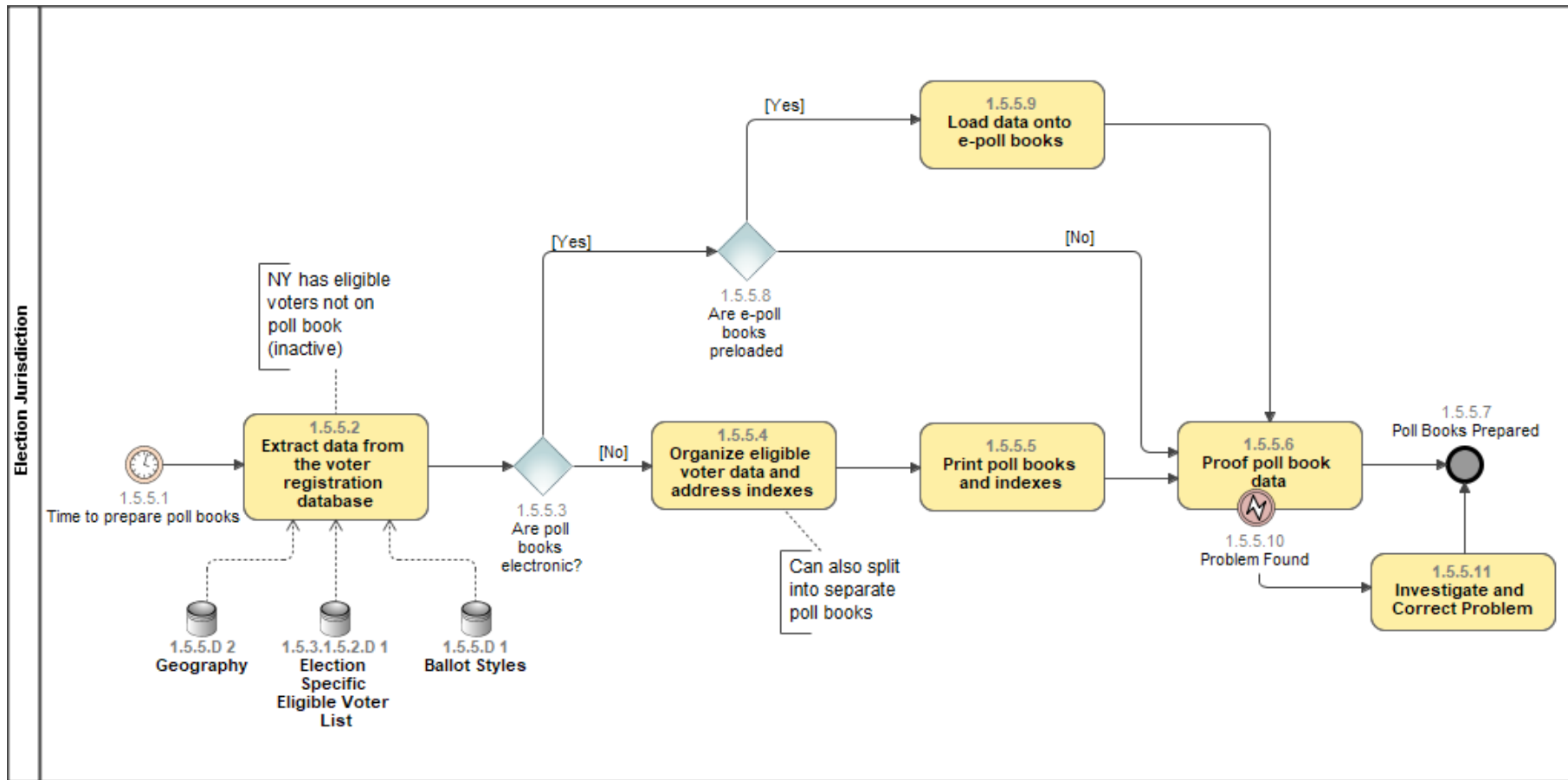| Name	Description	Properties
1.5.5.2 Extract data from the voter registration database	Extract a list of eligible voters from the voter registration database, including at a minimum, those in the geopolitical units participating in the election.	Resources: • Election Jurisdiction
1.5.5.4 Organize eligible voter data and address indexes	Put the voter data and address indexes in a fixed order for easy retrieval.	Resources: • Election Jurisdiction
1.5.5.5 Print poll books and indexes	Print the poll books and indexes to paper media.	Resources: • Election Jurisdiction
1.5.5.6 Proof poll book data	Proof poll book data according to local rules. This may include spot checking, verification of page counts, voter counts, among others.	Resources: • Election Jurisdiction
1.5.5.9 Load data onto e-poll books	Load memory devices or internal memory of each e-poll book with voter names and addresses.	Resources: • Election Jurisdiction
1.5.5.11 Investigate and Correct Problem	If there is a problem with the poll book data, perform an investigation to determine the cause and correct.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description
Election Specific Eligible Voter List [Voter Record]	Voter Record - A record representing all the known facts about a voter.
Ballot Styles [Ballot Style Data]	
Geography [Geospatial Feature]	

Process 1.5.6 Prepare Voting Devices

Prepare voting devices such that they are ready for election deployment.

Diagram Prepare Voting Devices
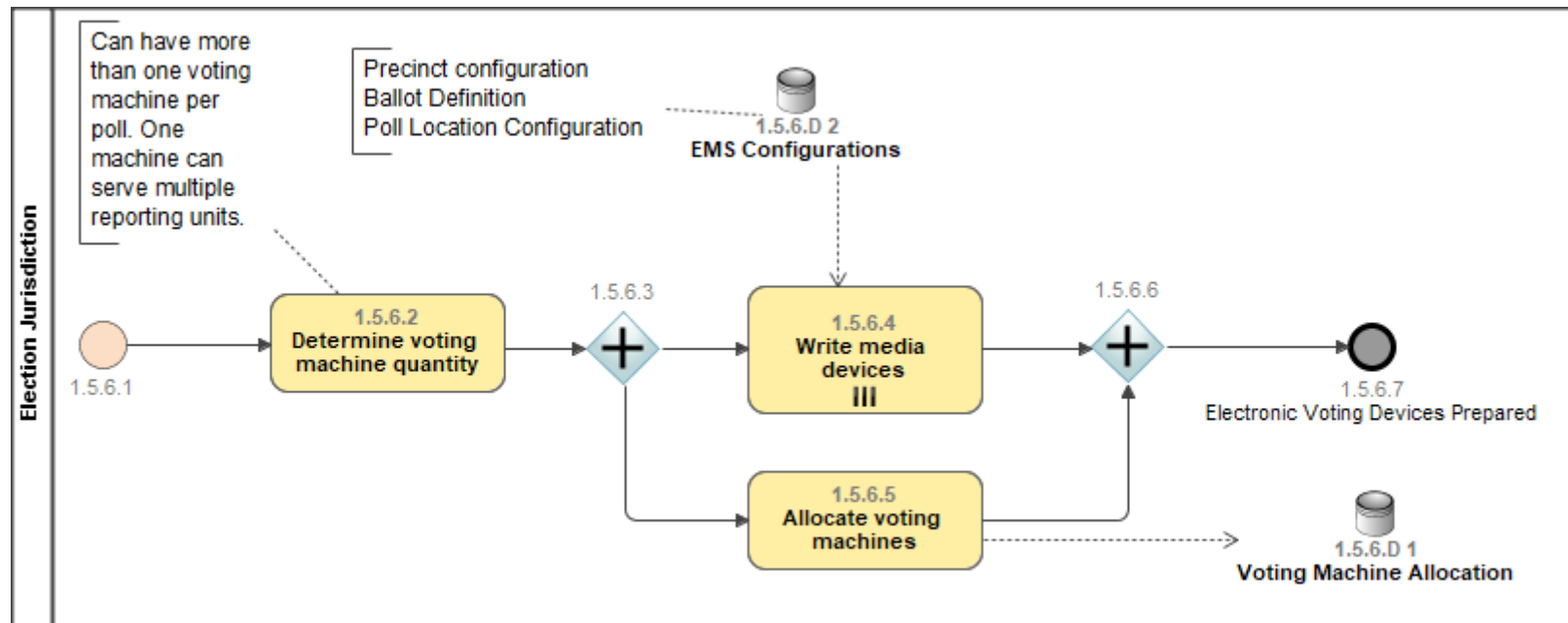
Figure 26.   Prepare Voting Devices

Prepare voting devices such that they are ready for election deployment.

Process Activities:

Name	Description	Properties
▢ 1.5.6.2 Determine voting machine quantity	Determine the number of voting machines that need to be deployed for the election. The quantity is determined by a mixture of factors, such as the polling location configuration, systems used, and expected turnout.	Resources: • Election Jurisdiction
▢ 1.5.6.4 Write media devices	Write the media devices that when connected to a voting device, determine its configuration. Media may be specifically written for use in a particular poll location configuration.	Resources: • Election Jurisdiction
▢ 1.5.6.5 Allocate voting machines	Identify the actual equipment used during the election, including spares. A minimum number of machines allocated per geography is often specified by law or policy.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description
Voting Machine Allocation [Equpment Allocation]	
EMS Configurations [Election Definition]	

Process 1.5.7 Perform Logic and Accuracy Testing and Report Validation

Perform a set of tasks that tests equipment allocated for the election. The tasks test the machines' ability to perform its major functions. After the test concludes, validate the results and take any required corrective action.

Diagram Perform Logic and Accuracy Testing and Report Validation

Figure 27.   Perform Logic and Accuracy Testing and Report Validation

Perform a set of tasks that tests equipment allocated for the election. The tasks test the machines' ability to perform its major functions. After the test concludes, validate the results and take any required corrective action.

Process Activities:

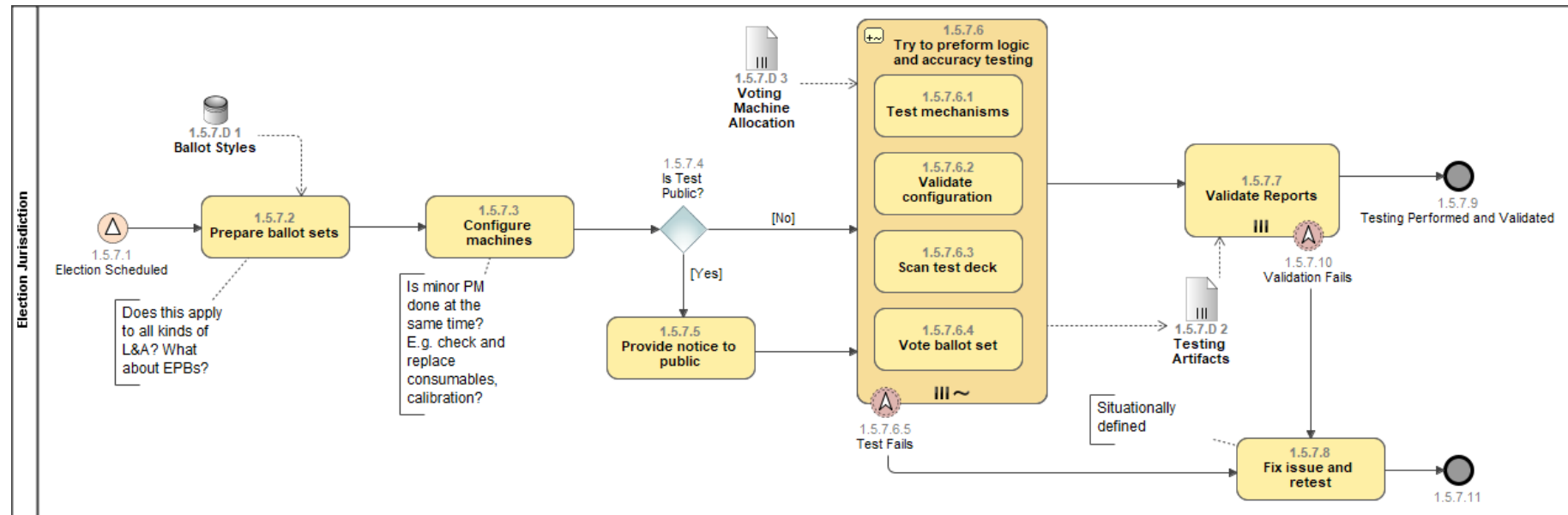| Name	Description	Properties
▭ 1.5.7.2 Prepare ballot sets	Build a set of ballots (test deck) that provides good coverage of the ballot - that is - it should test all the available contest options. Paper systems only: It may also contain marks that test the second chance voting features of the voting machine. The deck may also vary in the origin of the marks, i.e. by hand, premarked, marked via a ballot marking device, etc.	Resources: • Election Jurisdiction
▭ 1.5.7.3 Configure machines	Configure machines such that they represent an actual deployment scenario. This should include the actual election definition that will be used during the voting period on all hardware that is to be deployed.	Resources: • Election Jurisdiction
▭ 1.5.7.5 Provide notice to public	Provide a notice to the public as to the time and place of the testing of voting equipment.	Resources: • Election Jurisdiction
▥ 1.5.7.6 Try to preform logic and accuracy testing		Resources: • Election Jurisdiction
▭ 1.5.7.6.1 Test mechanisms	Test the mechanical components of the voting equipment for proper function.	Resources: • Election Jurisdiction
▭ 1.5.7.6.2 Validate configuration	Validate that the voting equipment is configured properly. This may include things such as checking the firmware version, the election definition, and that counters are set to zero.	Resources: • Election Jurisdiction
▭ 1.5.7.6.3 Scan test deck	Run the test deck through the optical scan voting equipment.	Resources: • Election Jurisdiction
▭ 1.5.7.6.4 Vote ballot set	Vote the ballot set on a direct record electronic voting machine.	Resources: • Election Jurisdiction
▭ 1.5.7.7 Validate Reports	Validate that the set of artifacts produced during the logic and accuracy testing matches the expected outcome.	Resources: • Election Jurisdiction
▭ 1.5.7.8 Fix issue and retest		Resources: • Election Jurisdiction

Data used in Process:

Name	Description
⬢ Ballot Styles [▤ Ballot Style Data]	

Name	Description
📄 Testing Artifacts	
📄 Voting Machine Allocation [▦ Equpment Allocation]	

Process 2.1.1 Open Polling Location

Open the polling location so that voters may begin voting.

Diagram Open Polling Location

Figure 28.   Open Polling Location

Open the polling location so that voters may begin voting.
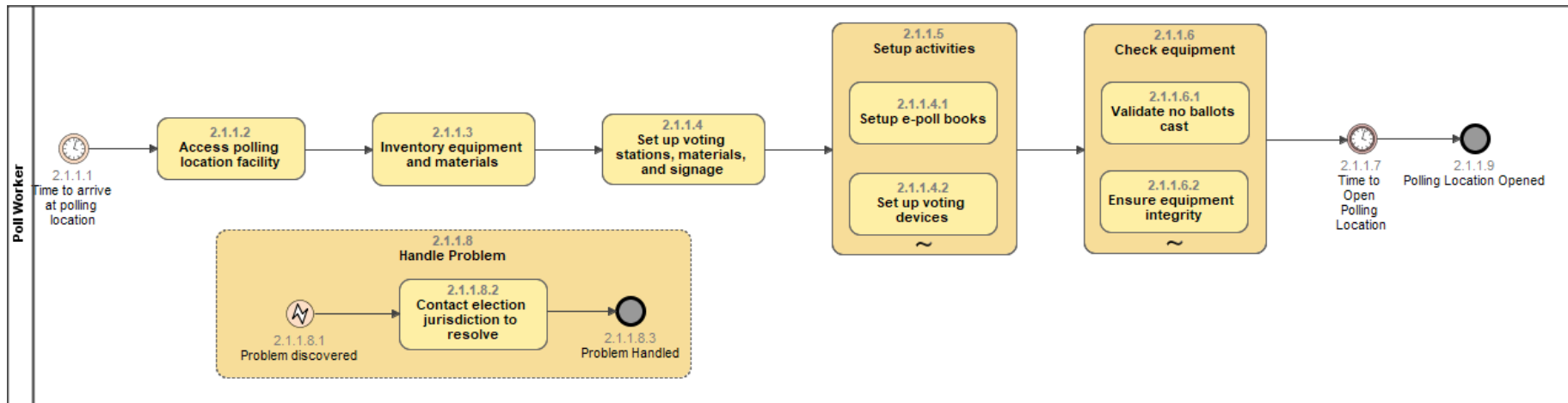
Process Activities:

Name	Description	Properties

Name	Description	Properties
2.1.1.2 Access polling location facility	Gain access to the polling location.	Resources: • Poll Worker
2.1.1.3 Inventory equipment and materials	Ensure all the required materials for a polling location are accounted for.	Resources: • Poll Worker
2.1.1.4 Set up voting stations, materials, and signage	Some setup may be done in the days leading up to voting. Other setup tasks may be done immediately before voting. Because voting locations are often rented facilities, the space may need to be modified to become conducive to voting.	Resources: • Poll Worker
2.1.1.4.1 Setup e-poll books	Unpack and setup the electronic poll books according to a predetermined configuration, for example connecting a tablet to a printer. There may be certain poll opening tasks as well, such as logging into the e-poll book software.	Resources: • Poll Worker • Electronic Poll Book
2.1.1.4.2 Set up voting devices	Set up the voting devices, such as turning the devices on, and performing poll opening tasks.	Resources: • Poll Worker
2.1.1.5 Setup activities	Perform setup activities according to the election jurisdiction's policies and procedures.	Resources: • Poll Worker
2.1.1.6 Check equipment	Check that the equipment is ready for use. The poll workers may also inspect the equipment for damage or tampering.	Resources: • Poll Worker
2.1.1.6.1 Validate no ballots cast	Ensure that no ballots have been cast, such as by checking the ballot boxes, or machine totals.	Resources: • Poll Worker
2.1.1.6.2 Ensure equipment integrity	Ensure the equipment has not been tampered with.	Resources: • Poll Worker
2.1.1.8 Handle Problem		Resources: • Poll Worker
2.1.1.8.2 Contact election jurisdiction to resolve	Contact the election jurisdiction to receive guidance on resolving any discovered problem.	Resources: • Poll Worker

Process 2.1.2 Vote and Submit Ballot
Models the end-to-end in-person voting process.

Diagram Vote and Submit Ballot
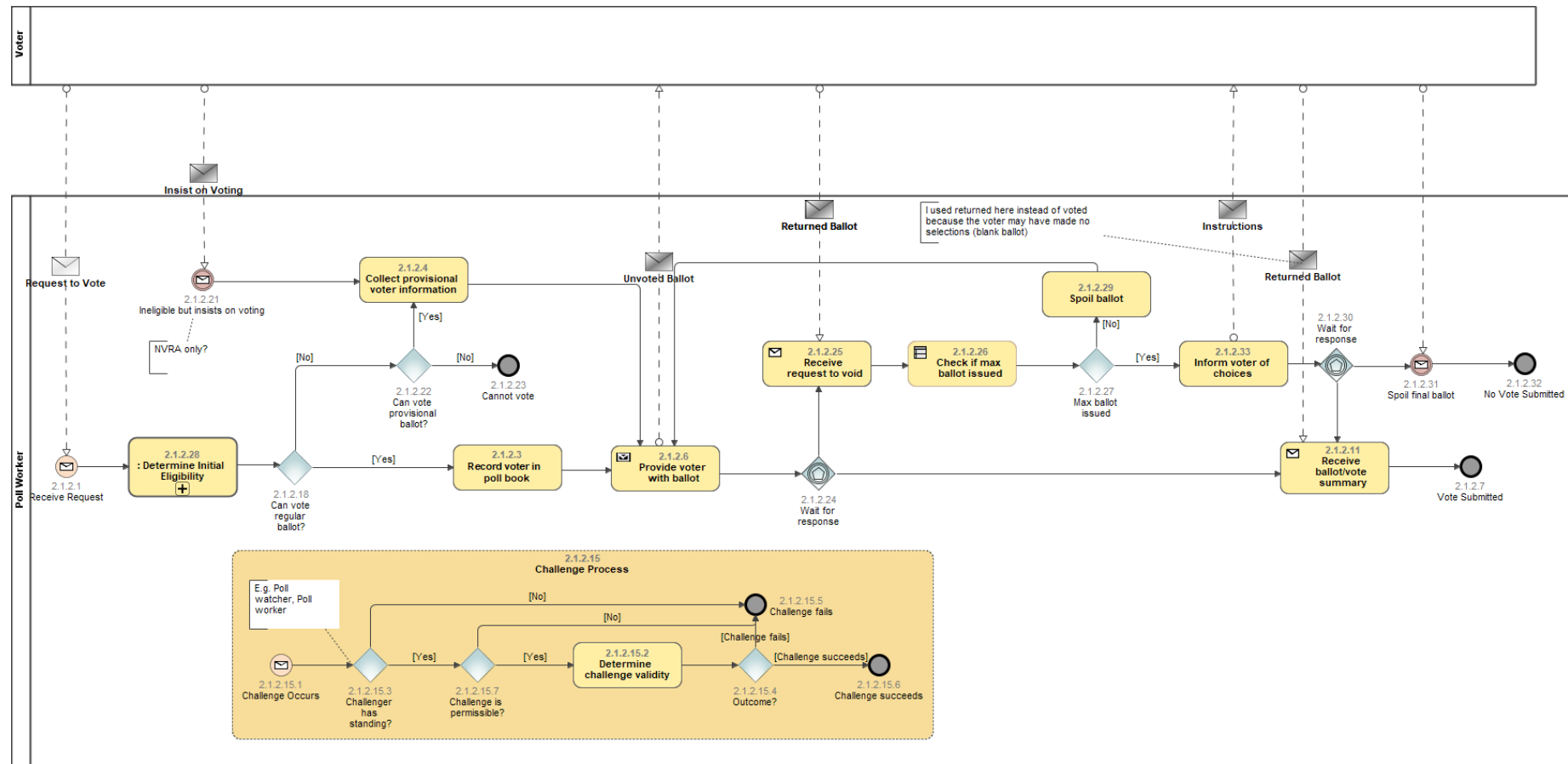
Figure 29.   Vote and Submit Ballot

Process Activities:

Name	Description	Properties
2.1.2.3 Record voter in poll book	Record the voter as participating in the election.	Resources: • Poll Worker
2.1.2.4 Collect provisional voter information		Resources: • Poll Worker

Name	Description	Properties
✉ 2.1.2.6 Provide voter with ballot		Resources: • 👤 Poll Worker
✉ 2.1.2.11 Receive ballot/vote summary		Resources: • 👤 Poll Worker
⊞ 2.1.2.15 Challenge Process		Resources: • 👤 Poll Worker
▭ 2.1.2.15.2 Determine challenge validity		Resources: • 👤 Poll Worker
✉ 2.1.2.25 Receive request to void		Resources: • 👤 Poll Worker
▤ 2.1.2.26 Check if max ballot issued		Resources: • 👤 Poll Worker
▭ 2.1.2.28		Resources: • 👤 Poll Worker Called Element: • ⬡ Determine Initial Eligibility
▭ 2.1.2.29 Spoil ballot		Resources: • 👤 Poll Worker
▭ 2.1.2.33 Inform voter of choices		Resources: • 👤 Poll Worker

Process 2.1.3 Determine Initial Eligibility

Make initial determinations regarding the person's eligibility to vote.

Diagram Determine Initial Eligibility
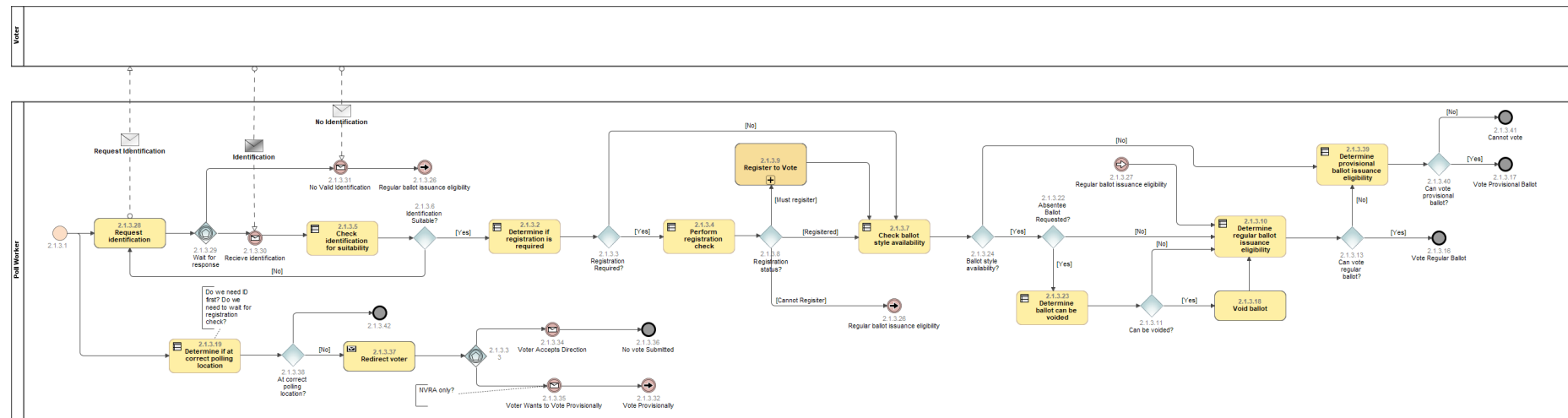
Figure 30.   Determine Initial Eligibility

Process Activities:

Name	Description	Properties
2.1.3.2 Determine if registration is required	Determine if registration is required to vote in the election jurisdiction.	Resources: • Election Jurisdiction • Poll Worker
2.1.3.4 Perform registration check	Determine that the voter has met the registration requirements, such as meeting a registration deadline.	Resources: • Election Jurisdiction • Poll Worker
2.1.3.5 Check identification for suitability	Determine if the provided identification is valid for voting purposes.	Resources: • Election Jurisdiction • Poll Worker
2.1.3.7 Check ballot style availability	Determine if there is a ballot style available given the voter's circumstance (e.g. residence) and intention (e.g. party affiliation).	Resources: • Election Jurisdiction • Poll Worker
2.1.3.9 Register to Vote	Perform Register to Vote process.	Resources: • Election Jurisdiction • Poll Worker

Name	Description	Properties
2.1.3.10 Determine regular ballot issuance eligibility	Given all the other determinations made, determine if the voter can vote a regular ballot.	Resources: • Election Jurisdiction • Poll Worker
2.1.3.18 Void ballot	Void the voter's ballot.	Resources: • Election Jurisdiction • Poll Worker
2.1.3.19 Determine if at correct polling location	Determine if the voter is at the correct polling location, i.e. that they will receive a ballot that can count	Resources: • Election Jurisdiction • Poll Worker
2.1.3.23 Determine ballot can be voided	Determine if the voter's absentee ballot can be voided so they can vote a new, regular ballot.	Resources: • Election Jurisdiction • Poll Worker
2.1.3.28 Request identification	Identify the voter, either verbally or through the presentation of a valid voter identification document.	Resources: • Election Jurisdiction • Poll Worker
2.1.3.37 Redirect voter	Direct the voter to the correct polling location, or where that information can be found.	Resources: • Election Jurisdiction • Poll Worker
2.1.3.39 Determine provisional ballot issuance eligibility	Determine if the voter may be issued a provisional ballot. This will be true for all NVRA states.	Resources: • Election Jurisdiction • Poll Worker

Process 2.1.4 Close Polling Location
Close the voting location on election day.

Diagram Close Polling Location
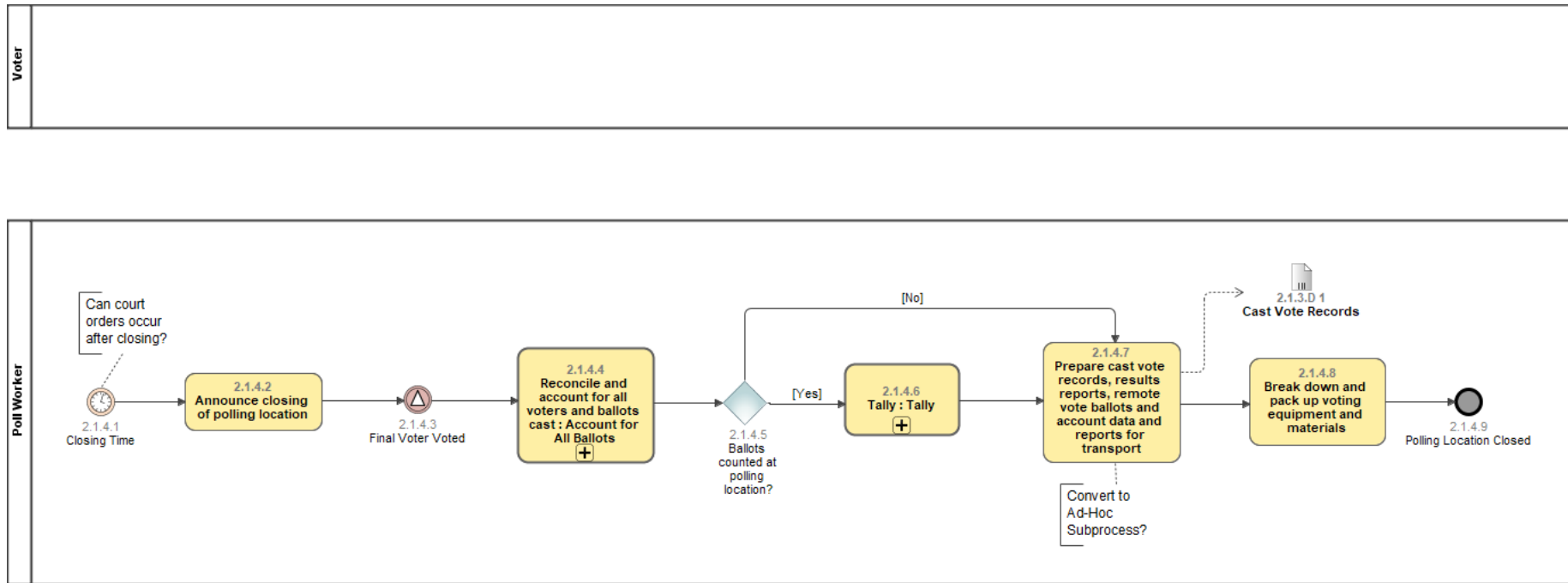
Figure 31.   Close Polling Location

Close the polling location on election day.

Process Activities:

Name	Description	Properties
2.1.4.2 Announce closing of polling location	Notify everyone at the polling location that polls will be closing.	Resources: • Poll Worker
2.1.4.4 Reconcile and account for all voters and ballots cast		Resources: • Poll Worker Called Element: • Account for All Ballots

Name	Description	Properties
▢ 2.1.4.6 Tally		Resources: • ⒜ Poll Worker Called Element: • ▱ Tally
▢ 2.1.4.7 Prepare cast vote records, results reports, remote vote ballots and account data and reports for transport		Resources: • ⒜ Poll Worker
▢ 2.1.4.8 Break down and pack up voting equipment and materials	Some break down may be done after Election Day. However, break down that may occur on Election Day includes the shutdown and sealing of equipment, removal of forms and envelops, and other activities that return the voting location to its prior state.	Resources: • ⒜ Poll Worker

Data used in Process:

Name	Description
▤ Cast Vote Records [▤ Cast Voter Record]	

Process 2.2.1 Maintain Remote Voter List

Maintain the list of voters whose ballot will be transmitted in advance of election day to a location outside the election jurisdiction.

Diagram Maintain Remote Voter List
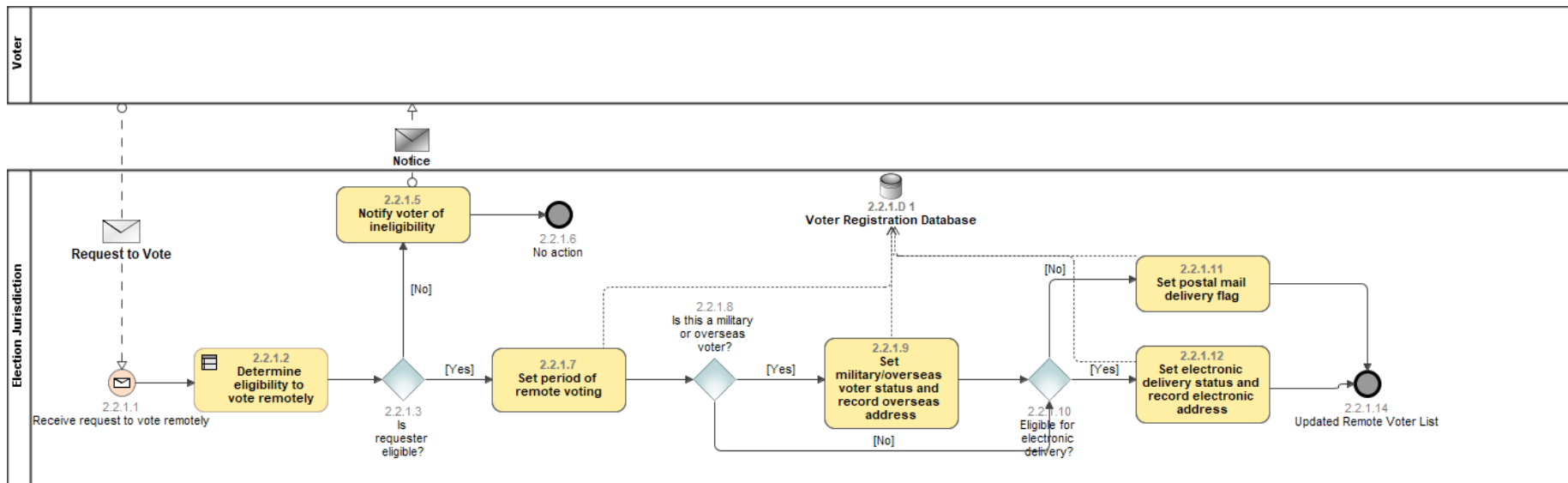
Figure 32. Maintain Remote Voter List

Maintain the list of voters whose ballot will be transmitted in advance of election day to a location outside the election jurisdiction.

Process Activities:

Name	Description	Properties
2.2.1.2 Determine eligibility to vote remotely	Determine if the request to vote remotely can be fulfilled. Some jurisdictions require the voter to provide a valid excuse to vote remotely.	Resources: • Election Jurisdiction • Voter Registration Database
2.2.1.5 Notify voter of ineligibility		Resources: • Election Jurisdiction
2.2.1.7 Set period of remote voting	Set permanent remote voting status. This will result in the voter receiving ballots remotely for upcoming elections.	Resources: • Election Jurisdiction • Voter Registration Database
2.2.1.9 Set military/overseas voter status and record overseas address	Note that the voter is military or overseas. These voters may be eligible for additional services.	Resources: • Election Jurisdiction • Voter Registration Database

Name	Description	Properties
2.2.1.11 Set postal mail delivery flag	Note that the voter will be receiving their ballot via postal mail.	Resources: • Election Jurisdiction • Voter Registration Database
2.2.1.12 Set electronic delivery status and record electronic address	Note that the voter will be receiving their ballot electronically.	Resources: • Election Jurisdiction • Voter Registration Database

Data used in Process:

Name	Description
Voter Registration Database [Voter Record]	Voter Record - A record representing all the known facts about a voter.

Process 2.2.2 Send Ballots by Mail

For each remote voter: Send a ballot to the voter via postal mail.

Diagram Send Ballots by Mail
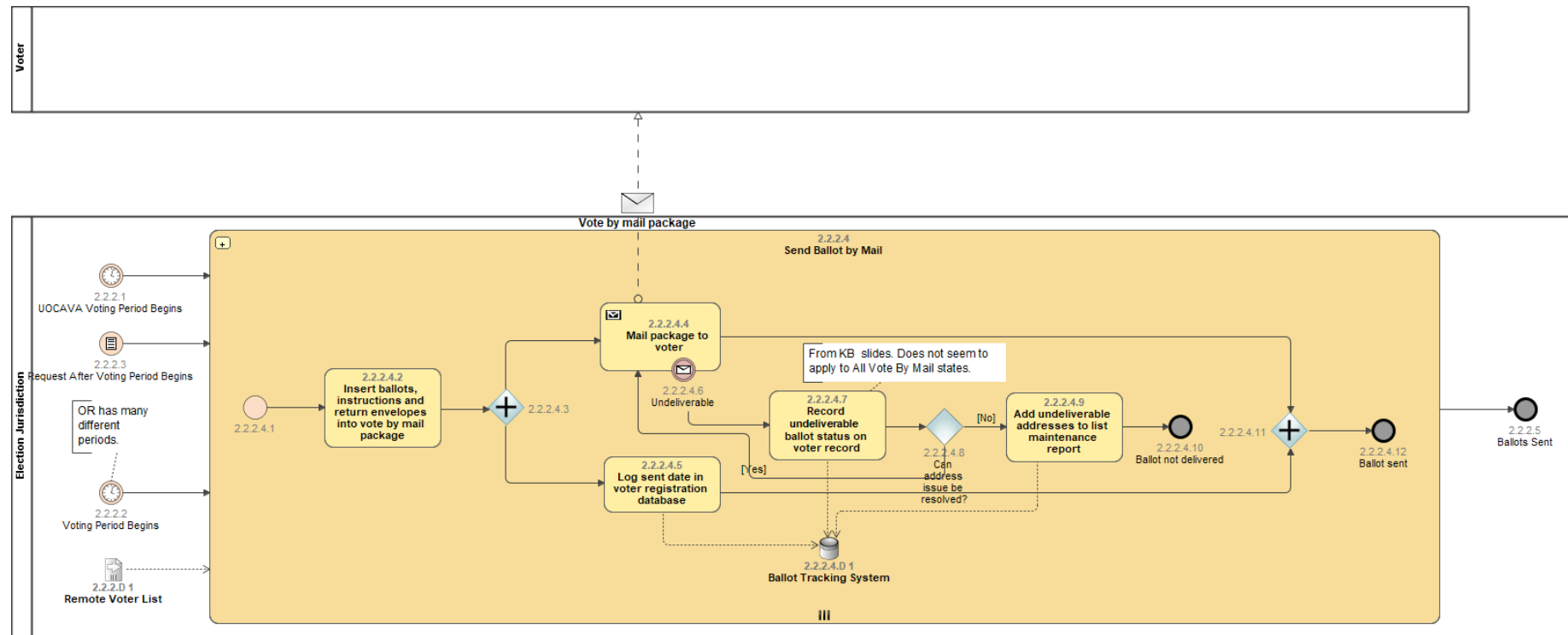
Figure 33.   Send Ballots by Mail

For each remote voter: Send a ballot to the voter via postal mail.

Process Activities:

Name	Description	Properties
⊞ 2.2.2.4 Send Ballot by Mail	Send a ballot to the voter via postal mail.	Resources: • Election Jurisdiction
▭ 2.2.2.4.2 Insert ballots, instructions and return envelopes into vote by mail package	Build a package of materials required for the vote by mail voter to mark and return their ballot.	Resources: • Election Jurisdiction
✉ 2.2.2.4.4 Mail package to voter	Mail the vote by mail package to the voter.	Resources: • Election Jurisdiction

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Name	Description	Properties
▭ 2.2.2.4.5 Log sent date in voter registration database	Note when the ballot package was mailed to the voter.	Resources: • 🏛 Election Jurisdiction
▭ 2.2.2.4.7 Record undeliverable ballot status on voter record	If the ballot was returned undeliverable, note the fact on the voter's record.	Resources: • 🏛 Election Jurisdiction
▭ 2.2.2.4.9 Add undeliverable addresses to list maintenance report	Add voter to list maintenance report for purposes of confirming their current address.	Resources: • 🏛 Election Jurisdiction

Data used in Process:

Name	Description
🛢 Ballot Tracking System [▤ Voter Record]	▤ Voter Record - A record representing all the known facts about a voter.
📑 Remote Voter List [▤ Voter Record]	▤ Voter Record - A record representing all the known facts about a voter.

Process 2.2.3 Send Ballot Electronically

For each remote voter: Send a ballot to the voter electronically (e.g. via email, fax or online).

Diagram Send Ballot Electronically
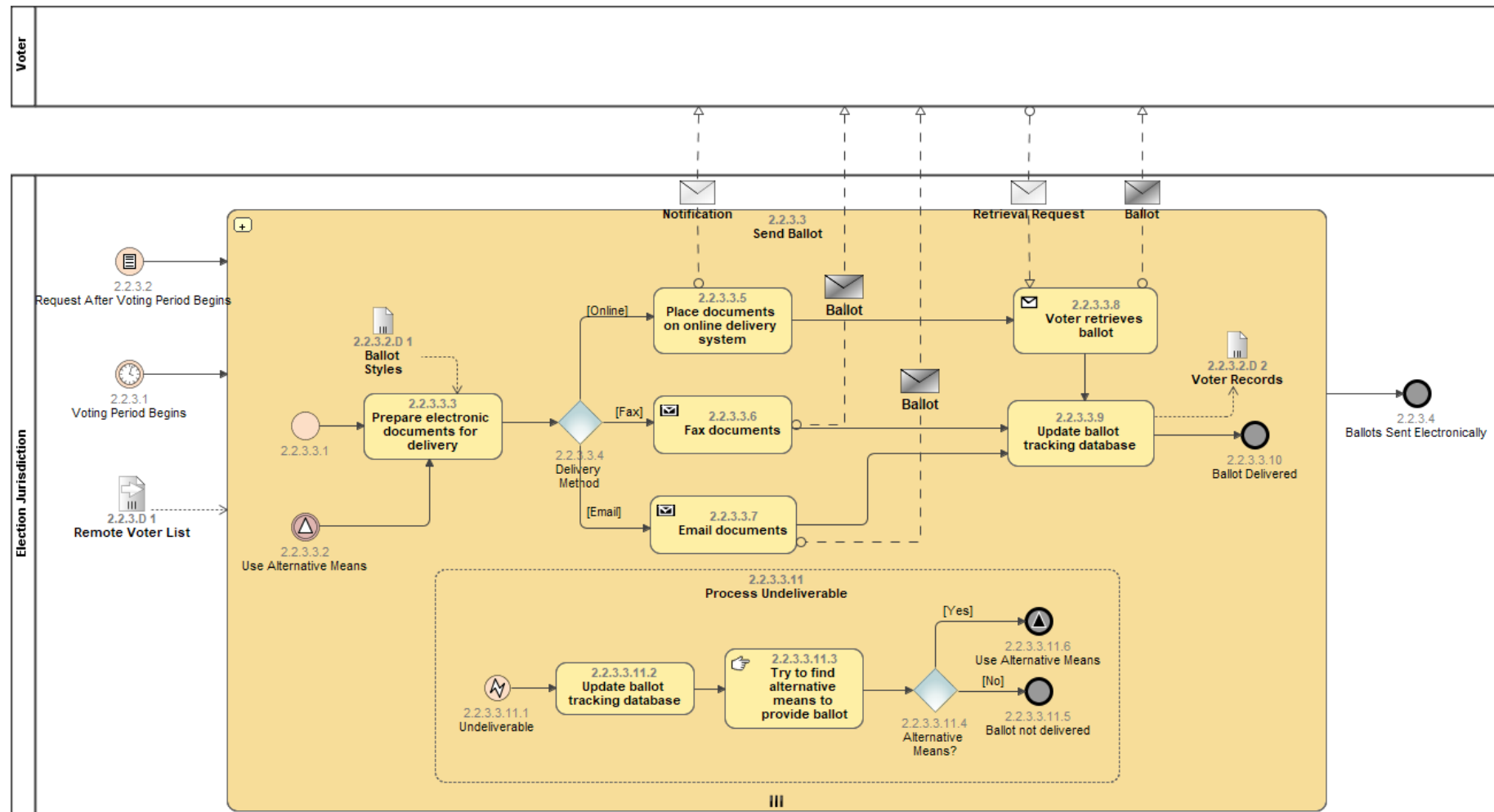
Figure 34.   Send Ballot Electronically

For each remote voter: send a ballot to the voter electronically (e.g. via email, fax or online).

Process Activities:

Name	Description	Properties

Name	Description	Properties
⊞ 2.2.3.3 Send Ballot	Send a ballot to the voter electronically (e.g. via email, fax or online).	Resources: • Election Jurisdiction
2.2.3.3.3 Prepare electronic documents for delivery	Prepare the electronic ballot package to be delivered. The exact details will vary based on the delivery method.	Resources: • Election Jurisdiction
2.2.3.3.5 Place documents on online delivery system	Make the ballot package available via an online delivery system (e.g. a web application).	Resources: • Election Jurisdiction
2.2.3.3.6 Fax documents	Send the ballot package via telephonic facsimile.	Resources: • Election Jurisdiction
2.2.3.3.7 Email documents	Send the ballot package via electronic mail.	Resources: • Election Jurisdiction
2.2.3.3.8 Voter retrieves ballot	Provide a notification to the voter that their ballot package is available via the on line delivery system.	Resources: • Election Jurisdiction
2.2.3.3.9 Update ballot tracking database	Note when the ballot package was transmitted or otherwise made available to the voter.	Resources: • Election Jurisdiction
⊞ 2.2.3.3.11 Process Undeliverable	Process the undeliverable message that occurred as a result of sending the ballot.	
2.2.3.3.11.2 Update ballot tracking database	If the ballot was returned as undeliverable, note the fact on the voter's record.	Resources: • Election Jurisdiction
2.2.3.3.11.3 Try to find alternative means to provide ballot	Attempt to contact the voter or otherwise find another mechanism for providing the ballot to the voter.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description
Ballot Styles [Ballot Style Data]	
Voter Records [Voter Record]	Voter Record - A record representing all the known facts about a voter.
Remote Voter List [Voter Record]	Voter Record - A record representing all the known facts about a voter.

Process 3.1.1 Receive and Process Ballot Packages

Receive and process a ballot package, e.g. an absentee or provisional ballot.

Diagram Receive and Process Ballot Packages
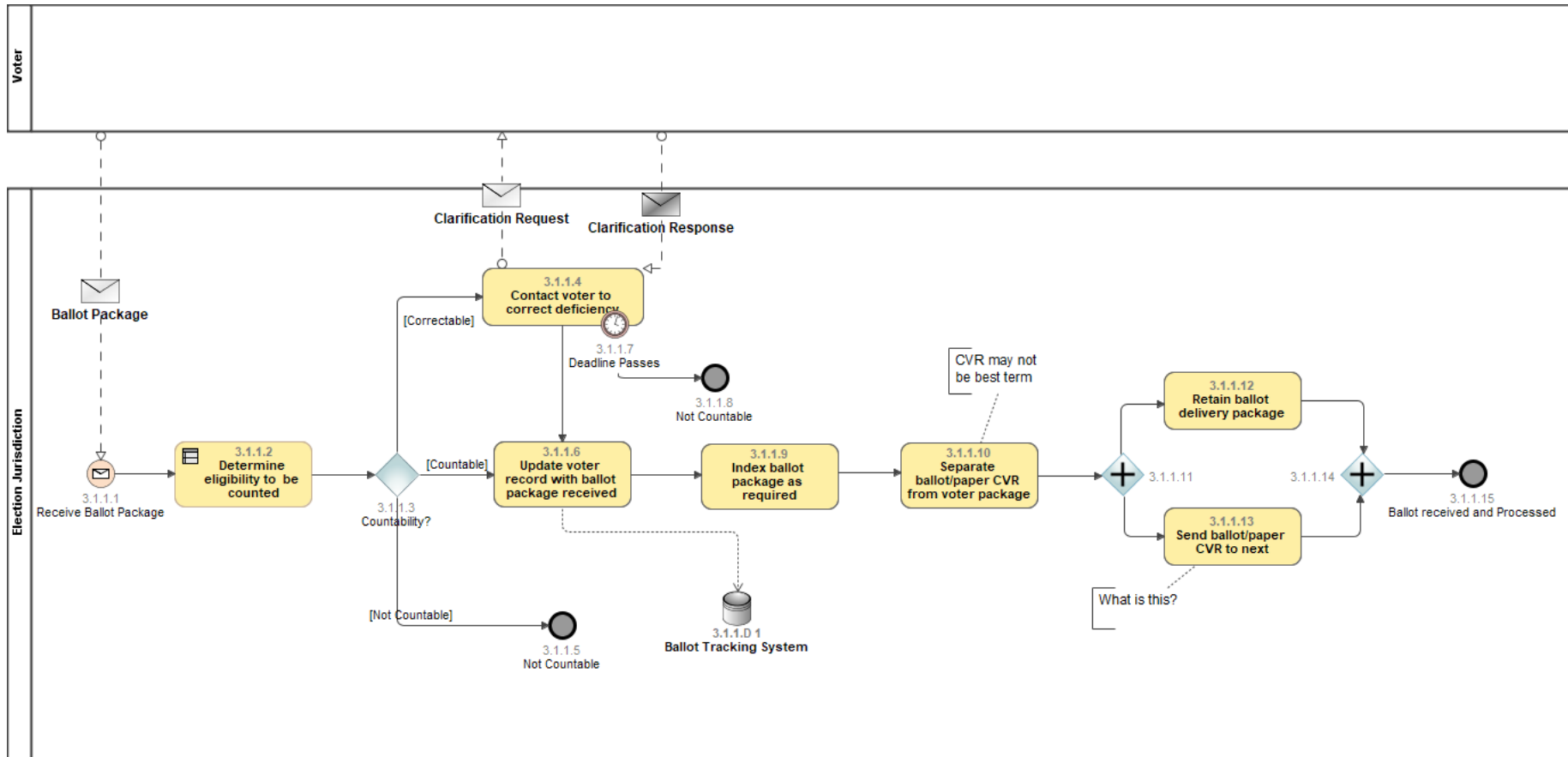
Figure 35.   Receive and Process Ballot Packages

Receive and process a ballot package, e.g. an absentee or provisional ballot.

Process Activities:

Name	Description	Properties
⊞ 3.1.1.2 Determine eligibility to be counted	Determine whether the ballot can be counted. This may be based on a variety of factors, such as timeliness, completeness of the ballot package, and eligibility to vote.	Resources: • 👥 Election Jurisdiction
⬭ 3.1.1.4 Contact voter to correct deficiency	If the ballot package is deficient, the voter may be contacted to correct the deficiency. There is usually a limited time window for this correction to occur.	Resources: • 👥 Election Jurisdiction
⬭ 3.1.1.6 Update voter record with ballot package received	Update the voter record to indicate that the ballot package has been received by the election jurisdiction.	Resources: • 👥 Election Jurisdiction
⬭ 3.1.1.9 Index ballot package as required	Index the ballot package so that it can be counted in its appropriate batch.	Resources: • 👥 Election Jurisdiction
⬭ 3.1.1.10 Separate ballot/paper CVR from voter package	Separate the voter's identification information from the ballot.	Resources: • 👥 Election Jurisdiction
⬭ 3.1.1.12 Retain ballot delivery package	Retain the ballot package (i.e. the voter identification information) according to retention schedules.	Resources: • 👥 Election Jurisdiction
⬭ 3.1.1.13 Send ballot/paper CVR to next		Resources: • 👥 Election Jurisdiction

Data used in Process:

Name	Description
🛢 Ballot Tracking System [⊞ Voter Record]	⊞ Voter Record - A record representing all the known facts about a voter.

Process 3.1.2 Account for All Ballots

Ensure that the total ballots cast matches that total number of voters and any exceptions to this are investigated and accounted for.

Diagram Account for All Ballots
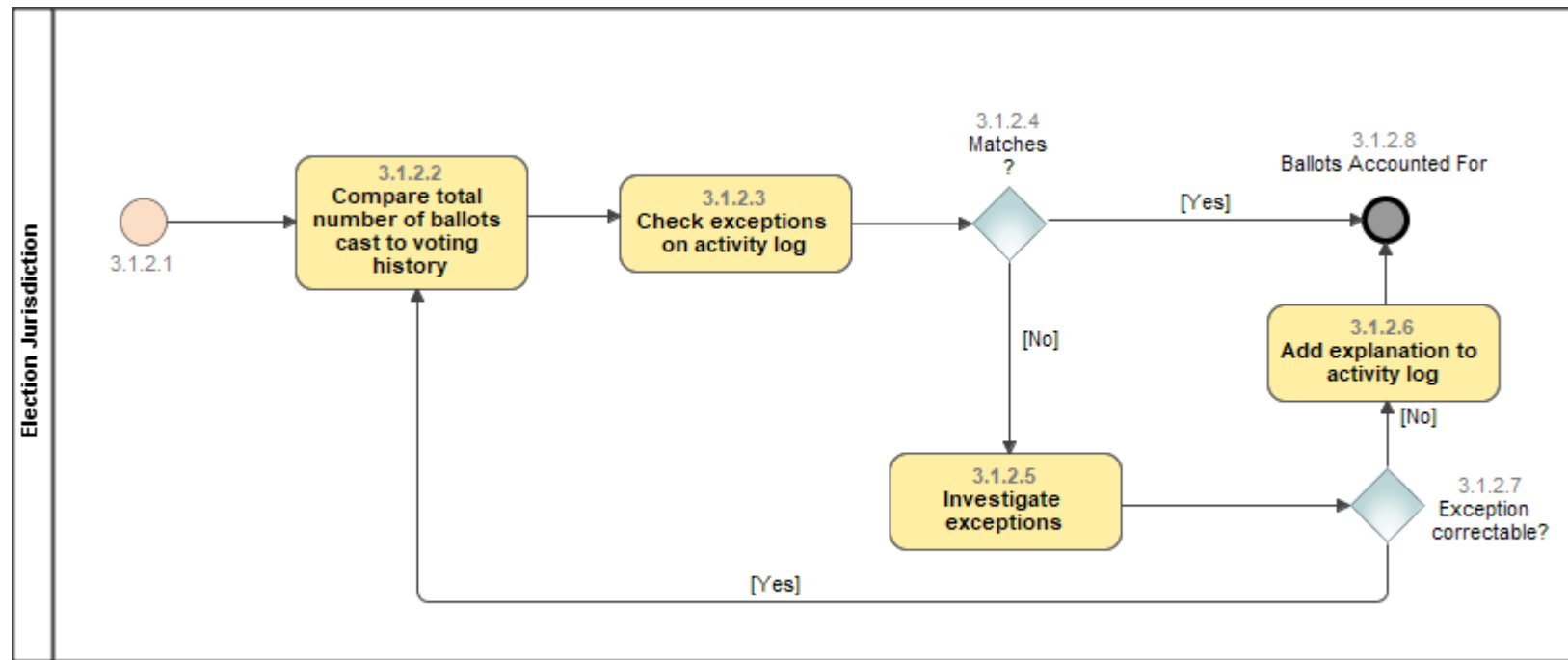
Figure 36.   Account for All Ballots

Ensure that the total ballots cast matches that total number of voters and any exceptions to this are investigated and accounted for.

Process Activities:

Name	Description	Properties
3.1.2.2 Compare total number of ballots cast to voting history	Compare the number of voters in the poll book with the number of ballots cast.	Resources: • Election Jurisdiction • Electronic Poll Book
3.1.2.3 Check exceptions on activity log	Check the activity log describing election day activity to address any reconciliation issues.	Resources: • Election Jurisdiction
3.1.2.5 Investigate exceptions	Investigate the mismatch to determine its cause and reconcile.	Resources: • Election Jurisdiction

Name	Description	Properties
3.1.2.6 Add explanation to activity log		Resources: • Election Jurisdiction

Process 3.1.3 Tally

Tally the ballot selections in order to report election results.

Diagram Tally
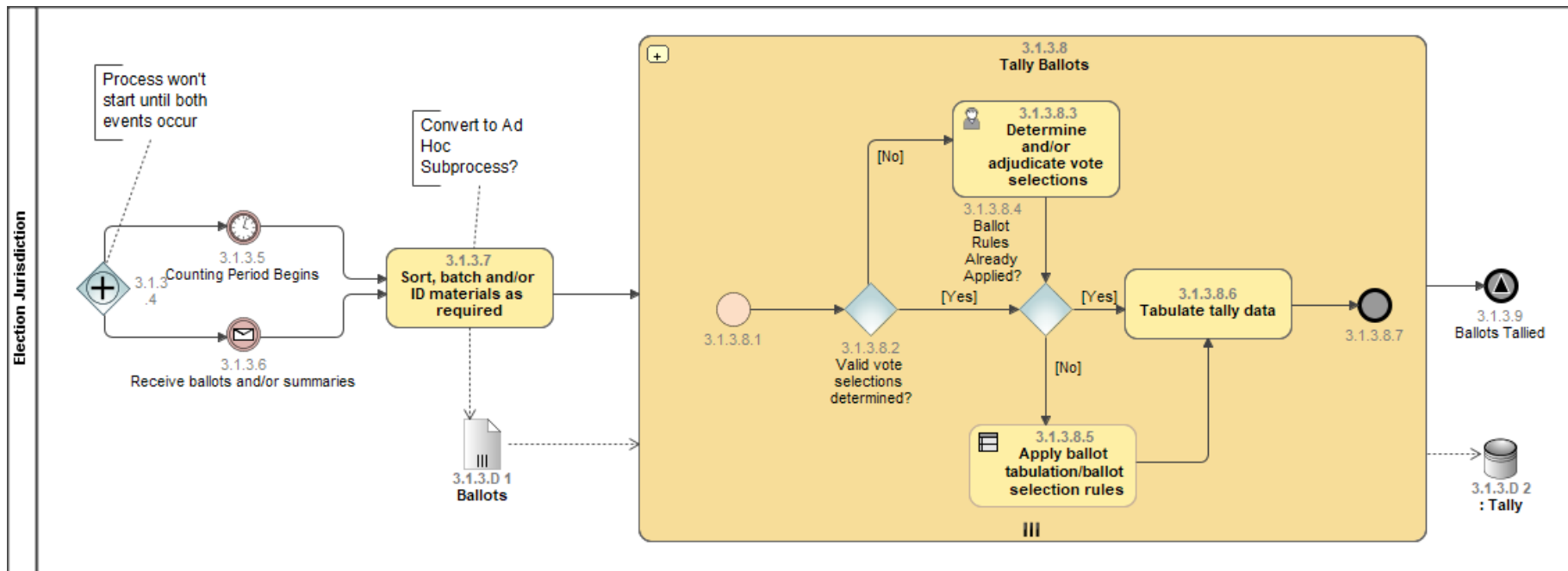
Figure 37. Tally

Tally the ballot selections in order to report election results.

Process Activities:

Name	Description	Properties
🔲 3.1.3.7 Sort, batch and/or ID materials as required		Resources: • 🏛 Election Jurisdiction
➕ 3.1.3.8 Tally Ballots	Add marked selections to the totals for the same.	Resources: • 🏛 Election Jurisdiction
👤 3.1.3.8.3 Determine and/or adjudicate vote selections	In the case of write-in votes, the written-in name may need to manually interpreted in order to determine the candidate the voter voted for, if any. There may also be situations where the ballot cannot be read using automated means and the voter's intent must be interpreted.	Resources: • 🏛 Election Jurisdiction
🗒 3.1.3.8.5 Apply ballot tabulation/ballot selection rules	Apply business rules, such as determining undervotes, and overvotes, handling of write-in votes.	Resources: • 🏛 Election Jurisdiction
🔲 3.1.3.8.6 Tabulate tally data	Tally the votes for the current reporting unit.	Resources: • 🏛 Election Jurisdiction

Data used in Process:

Name	Description
📄 Ballots [🗒 Ballot]	
🛢 [🗒 Tally]	

Process 3.1.4 Report Results
Provide up to date election results.

Diagram Report Results
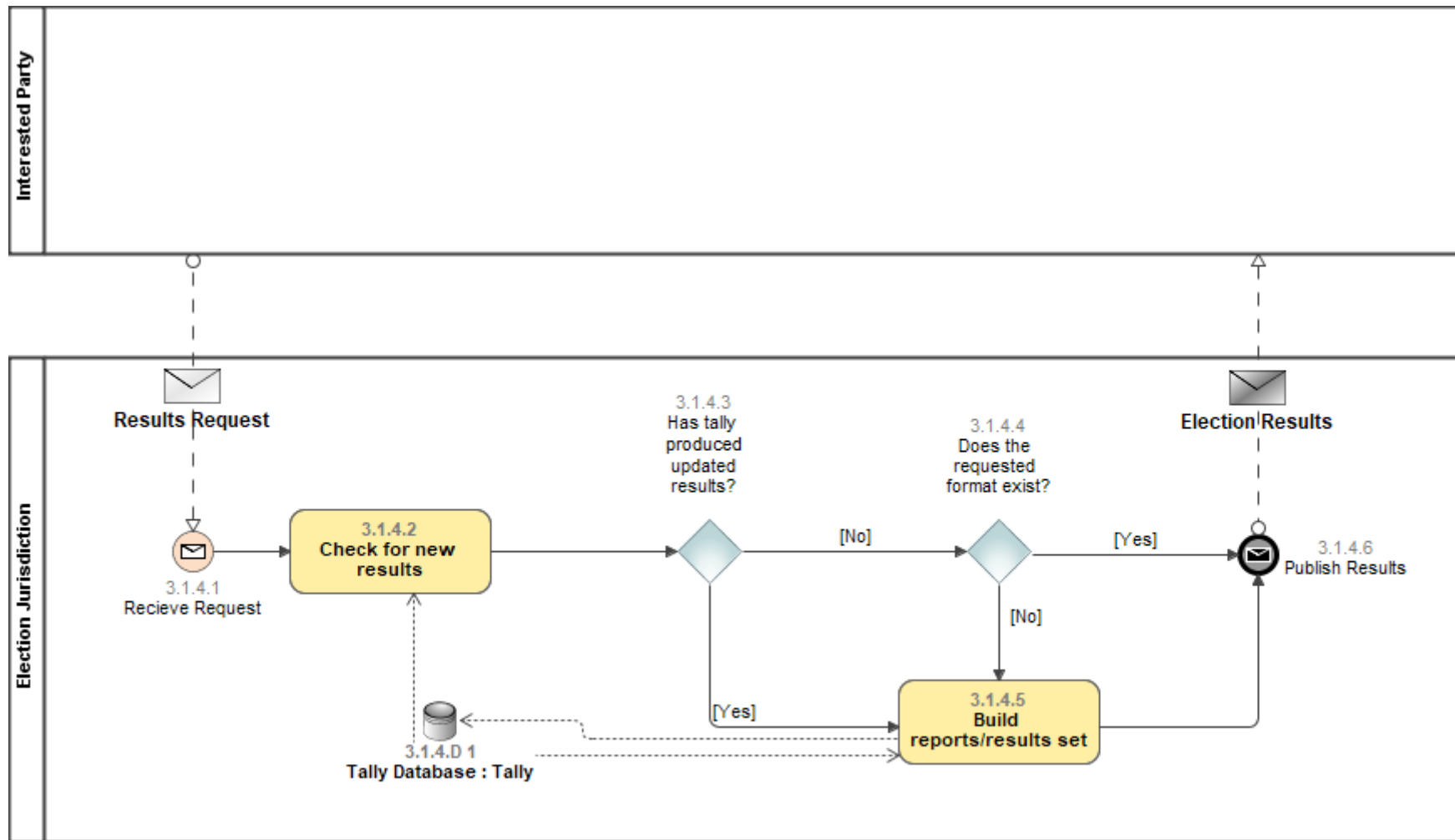
Figure 38.   Report Results

Provide up to date election results.

Process Activities:

Name	Description	Properties
🗂 3.1.4.2 Check for new results	Check if there are new results to report.	Resources: • 👥 Election Jurisdiction
🗂 3.1.4.5 Build reports/results set	Build a report according to its configuration (e.g. a summary or precinct report).	Resources: • 👥 Election Jurisdiction

Data used in Process:

Name	Description
🛢 Tally Database [📋 Tally]	

Process 3.1.5 Verify Vote Count

Ensure that the voters' ballots were counted as cast.

Diagram Verify Vote Count
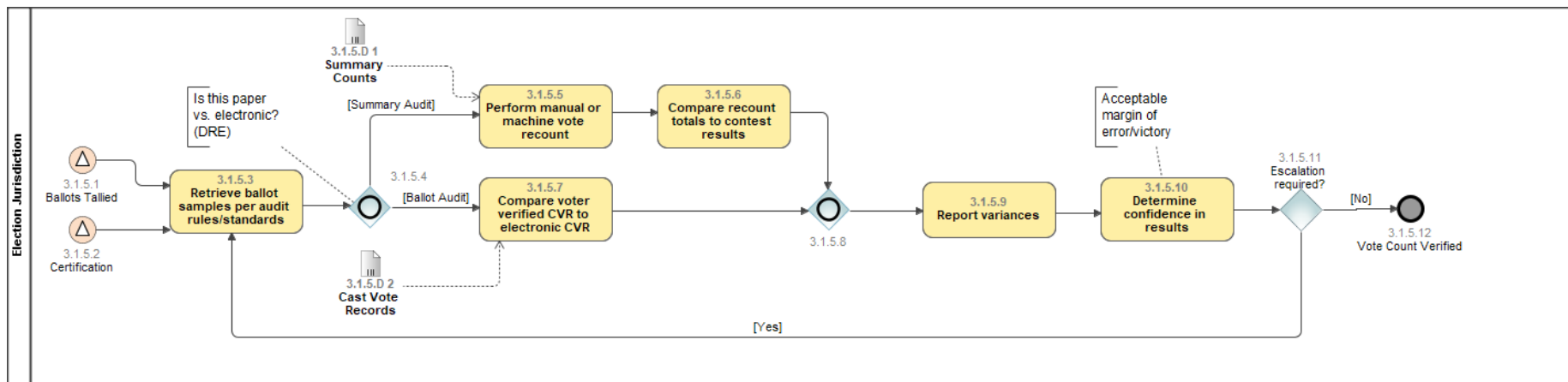
Figure 39.   Verify Vote Count

Perform an audit of the vote count to verify that it was accurately reached.

Process Activities:

Name	Description	Properties
3.1.5.3 Retrieve ballot samples per audit rules/standards	The units to be audited, may be set by rule. They may include precincts, polling locations, machines, among others.	Resources: • Election Jurisdiction
3.1.5.5 Perform manual or machine vote recount	Derive the summary totals from their source (e.g. voted paper ballots, or electronic media).	Resources: • Election Jurisdiction
3.1.5.6 Compare recount totals to contest results	Compare the recounted totals to the original tally.	Resources: • Election Jurisdiction
3.1.5.7 Compare voter verified CVR to electronic CVR	Where available, compare the voter verified cast vote record (e.g. VVPAT or ballot) against its electronic equivalent.	Resources: • Election Jurisdiction
3.1.5.9 Report variances	Report the results of the audit, including any variances from the original tally.	Resources: • Election Jurisdiction
3.1.5.10 Determine confidence in results	Determine if the audit established an acceptable level of confidence in the result.	Resources: • Election Jurisdiction

Data used in Process:

Name	Description
Summary Counts [Tally]	
Cast Vote Records [Cast Voter Record]	

Process 3.1.6 Certify and Publish Official Results

Publish the Official Results - that is - results including all valid votes.

Diagram Certify and Publish Official Results
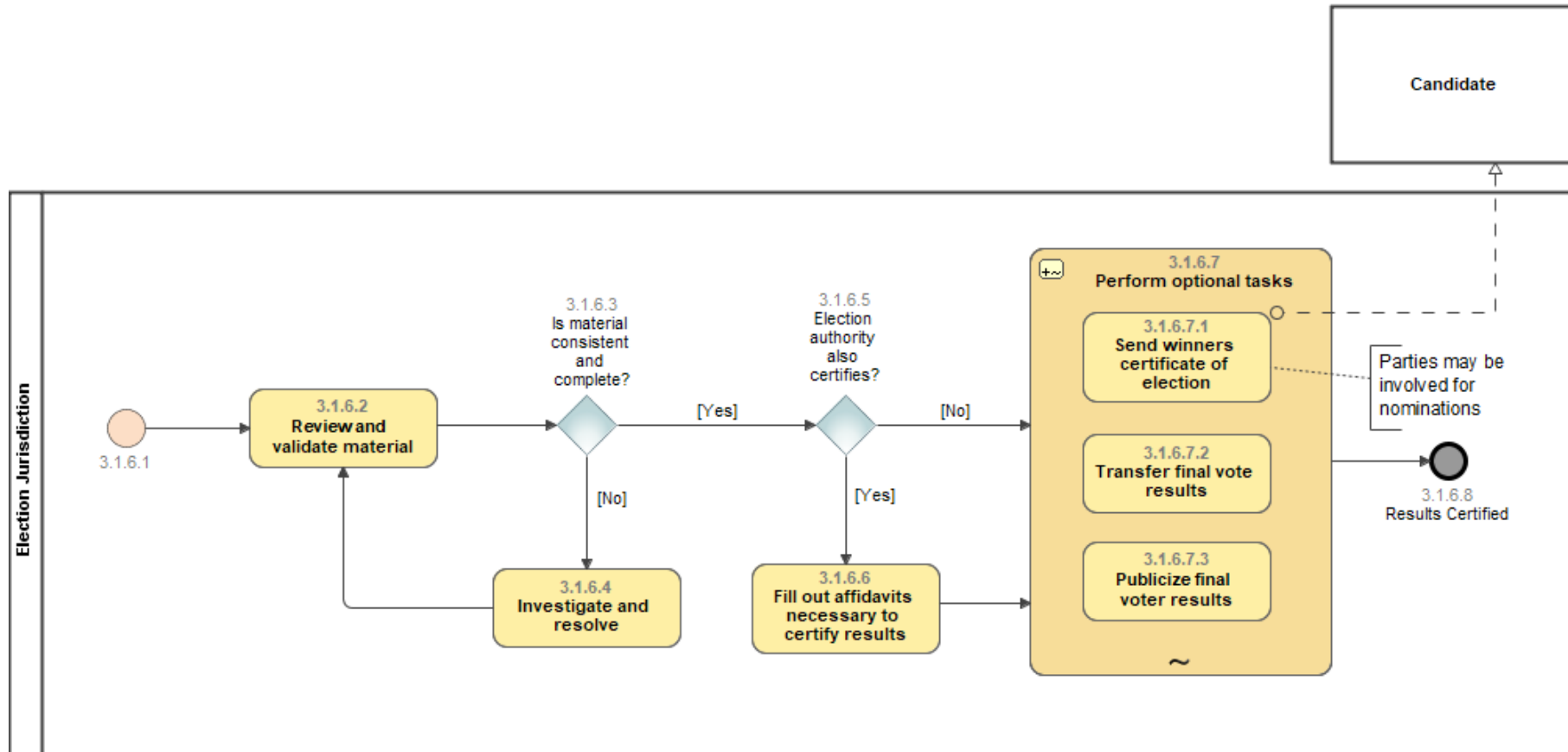
Figure 40.   Certify and Publish Official Results

Publish the Official Results - that is - results including all valid votes.

Process Activities:

Name	Description	Properties
3.1.6.2 Review and validate material		Resources: • Election Jurisdiction

Name	Description	Properties
▭ 3.1.6.4 Investigate and resolve		Resources: • 🖾 Election Jurisdiction
▭ 3.1.6.6 Fill out affidavits necessary to certify results	Fill out the forms required to certify the election.	Resources: • 🖾 Election Jurisdiction
⊞ 3.1.6.7 Perform optional tasks	Perform additional tasks as needed.	Resources: • 🖾 Election Jurisdiction
▭ 3.1.6.7.1 Send winners certificate of election	Send the winners a certificate of election.	Resources: • 🖾 Election Jurisdiction
▭ 3.1.6.7.2 Transfer final vote results	If the results need to be reported to another or higher election jurisdiction, transmit the official results.	Resources: • 🖾 Election Jurisdiction
▭ 3.1.6.7.3 Publicize final voter results	Notify interested parties of the results of the election.	Resources: • 🖾 Election Jurisdiction

Process 3.2 Deprocess Poll Materials

Return and inventory election materials in preparation of election night.

Diagram Deprocess Poll Materials
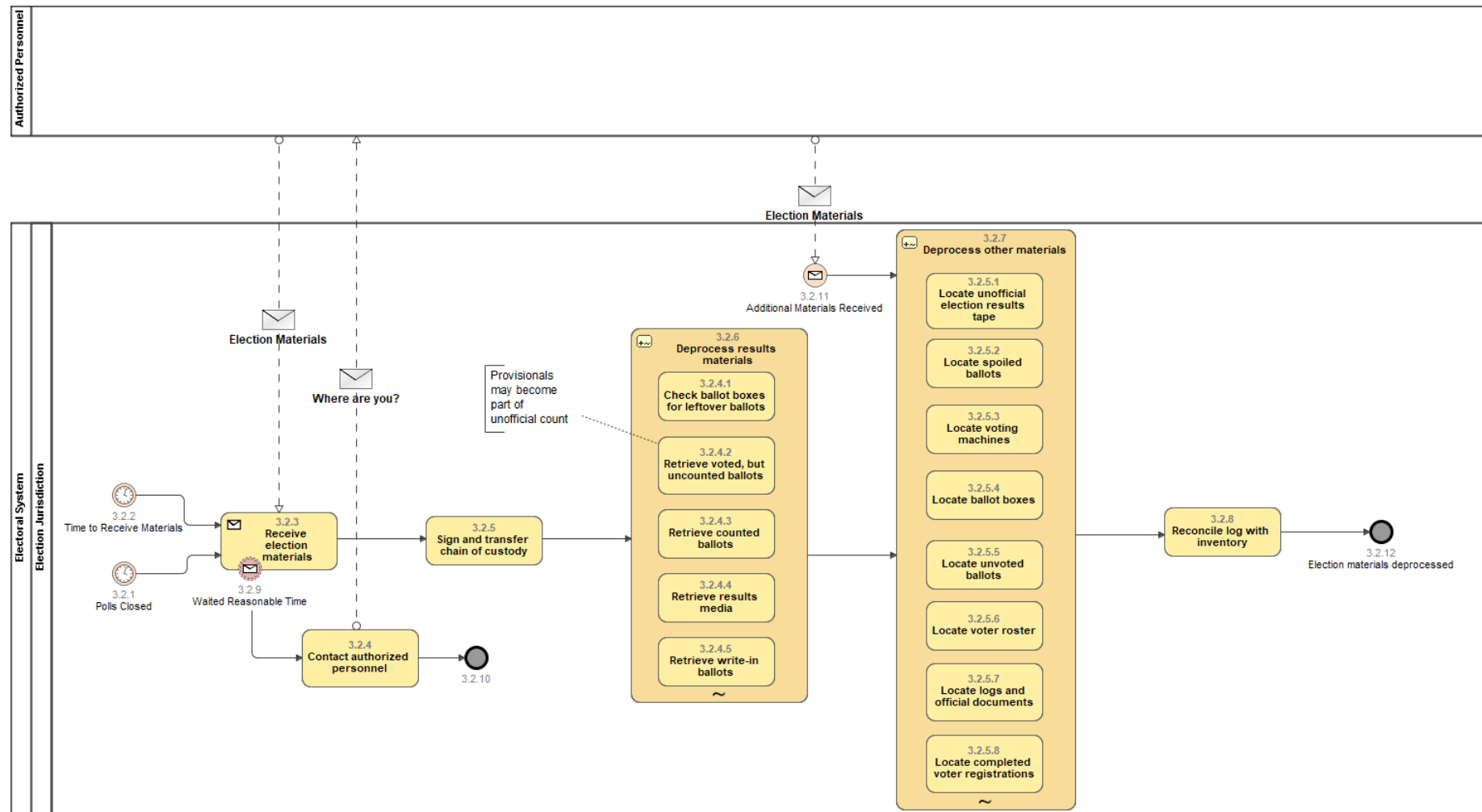
Figure 41.   Deprocess Poll Materials

Return and inventory election materials in preparation of election night.

Process Activities:

Name	Description	Properties

Name	Description	Properties
✉ 3.2.3 Receive election materials	The election jurisdiction will receive election materials from the authorized personnel overseeing a voting location. This occurs at least once, at the close of polls, or more often depending on applicable laws and policies.	Resources: • Election Jurisdiction • Electoral System
▢ 3.2.4 Contact authorized personnel	If the Authorized Personnel do not arrive at the designated pickup location of the election jurisdiction by a certain time, the election jurisdiction may attempt to make contact with them.	Resources: • Election Jurisdiction • Electoral System
▢ 3.2.4.1 Check ballot boxes for leftover ballots	Ensure the ballot boxes have been properly emptied.	Resources: • Election Jurisdiction
▢ 3.2.4.2 Retrieve voted, but uncounted ballots	Certain ballots may not be counted at the voting location. These include ballots that require adjudication before they may be counted, such as a provisional ballots subject to cure. All ballots for an election jurisdiction performing central count will belong to this category. This could also include ballots not counted due to machine failures. Also could include absentees drooped off at polls.	Resources: • Election Jurisdiction
▢ 3.2.4.3 Retrieve counted ballots	Election Jurisdictions may deploy precinct count tabulators. In this configuration, some ballots will return to the Election Jurisdiction from the Voting Location already counted. These ballots may be referred to in specific scenarios, such as a recount or an audit.	Resources: • Election Jurisdiction
▢ 3.2.4.4 Retrieve results media	If the election jurisdiction tabulates at the voting location, then the recorded results will be captured onto media such as paper or a computer memory device.	Resources: • Election Jurisdiction
▢ 3.2.4.5 Retrieve write-in ballots	Ballots with write-in selections may require manual adjudication, such as determining if the write-in was valid and who it was for.	Resources: • Election Jurisdiction
▢ 3.2.5 Sign and transfer chain of custody	The election jurisdiction and the Authorized Personnel may sign a chain of custody document indicating that the election materials have changed hands.	Resources: • Election Jurisdiction • Electoral System
▢ 3.2.5.1 Locate unofficial election results tape	The election results tape is a report outputting the recorded memory of a voting machine. In the case the memory device is misplaced or rendered inoperative, the results tape can be used to produce unofficial results.	Resources: • Election Jurisdiction
▢ 3.2.5.2 Locate spoiled ballots	Spoiled ballots may be used for ballot reconciliation purposes. They are not part of the official or unofficial counts.	Resources: • Election Jurisdiction
▢ 3.2.5.3 Locate voting machines	Return voting machines from the voting location to the warehouse of the election jurisdiction.	Resources: • Election Jurisdiction
▢ 3.2.5.4 Locate ballot boxes	Return ballot boxes from the voting location to the warehouse of the election jurisdiction.	Resources: • Election Jurisdiction
▢ 3.2.5.5 Locate unvoted ballots	The unvoted ballots may be used in ballot reconciliation.	Resources: • Election Jurisdiction

Name	Description	Properties
▢ 3.2.5.6 Locate voter roster	Locate the vote roster. It will be used during ballot reconciliation.	Resources: • 🖳 Election Jurisdiction
▢ 3.2.5.7 Locate logs and official documents	Locate logs and other documentation that may be useful for reconciliation.	Resources: • 🖳 Election Jurisdiction
▢ 3.2.5.8 Locate completed voter registrations	Locate completed voter registrations for processing.	Resources: • 🖳 Election Jurisdiction
⊞~ 3.2.6 Deprocess results materials	Depending on the division of labor between the Authorized Personnel and the Election Jurisdiction, certain materials will need to be deprocessed. This consists of taking an inventory of the election materials related to tabulation.	Resources: • 🖳 Election Jurisdiction • 🖳 Electoral System
⊞~ 3.2.7 Deprocess other materials	There are many materials appurtenant to the election but not related to the production of results. Because of the limited time to produce election night results, these materials may not be collected until after election day.	Resources: • 🖳 Election Jurisdiction • 🖳 Electoral System
▢ 3.2.8 Reconcile log with inventory	Ensure that all materials are accounted for in accordance with the log.	Resources: • 🖳 Election Jurisdiction • 🖳 Electoral System

Process 3.2.1 Retain and Secure Election Materials

Retain election materials securely according to a retention schedule.

Process 3.2.2 Check Poll Voting Equipment

For each piece of equipment: Determine if there are differences in the general state of the equipment between when it left the custody of the election jurisdiction and when it returned.

Diagram Check Poll Voting Equipment
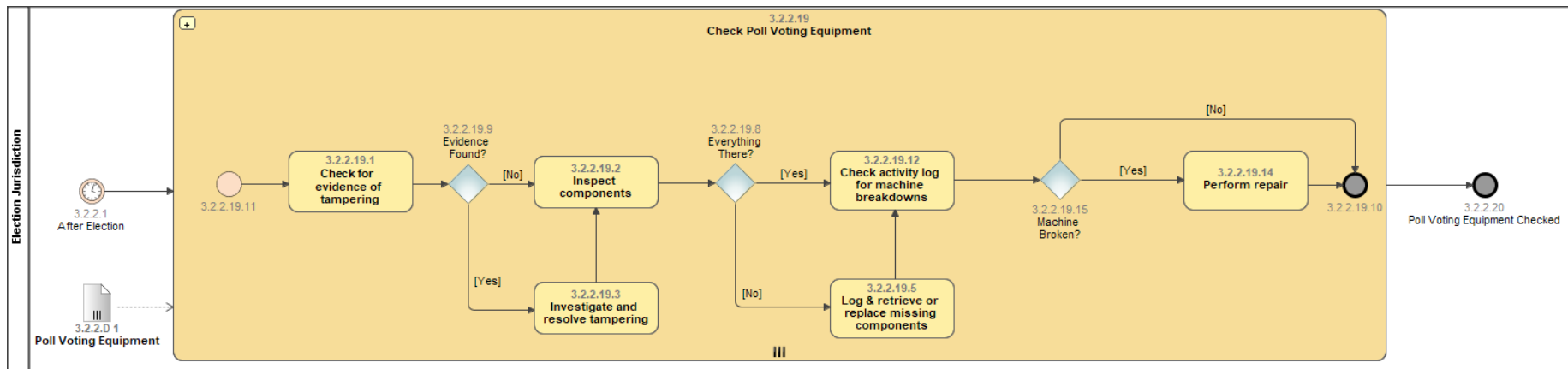
Figure 42.   Check Poll Voting Equipment

For each piece of equipment: Determine if there are differences in the general state of the equipment between when it left the custody of the election jurisdiction and when it returned.

Process Activities:

Name	Description	Properties
⊞ 3.2.2.19 Check Poll Voting Equipment	Determine if there are differences in the general state of the equipment between when it left the custody of the election jurisdiction and when it returned.	Resources: • Election Jurisdiction
3.2.2.19.1 Check for evidence of tampering	Check for any signs of tampering including, but not limited to: broken seals, broken latches, defaced or changed serial numbers.	Resources: • Election Jurisdiction
3.2.2.19.2 Inspect components	Perform an inventory of the components that make up the voting equipment, including but not limited to: cases, cards, covers, consumables, cables, stands.	Resources: • Election Jurisdiction
3.2.2.19.3 Investigate and resolve tampering	Conduct an investigation of the tampering. The form of the investigation will depend on the specific circumstances surrounding the case.	Resources: • Election Jurisdiction
3.2.2.19.5 Log & retrieve or replace missing components	Attempt to locate the missing components. If the components cannot be found, spares may be used.	Resources: • Election Jurisdiction
3.2.2.19.12 Check activity log for machine breakdowns		Resources: • Election Jurisdiction
3.2.2.19.14 Perform repair		Resources: • Election Jurisdiction

Data used in Process:

Name	Description
Poll Voting Equipment [Voting Equipment]	

Process 3.2.3 Pay and Reimburse Poll Workers

Process payroll for poll workers and reimburse for applicable expenses.

Process 3.2.4 Pay Fee and Reimburse Polling Locations

Pay agreed upon fee for the hosting of the polling location and reimburse for applicable expenses.

Process 3.2.5 Bill Districts for Services

Bill districts for election related expenses, as allowed.

Process P1 Business Process Diagrams

Diagram Business Process Diagrams

Process Descriptions

Figure 43.   Business Process Diagrams

9 Collaborations

Resources in Collaborations:

Name	Related Resources
Election Conversations	- Election Jurisdiction - Applicant - Poll Worker - Voter Registration Database - Voter - Resident

Collaboration Election Conversations

Diagram Election Conversations
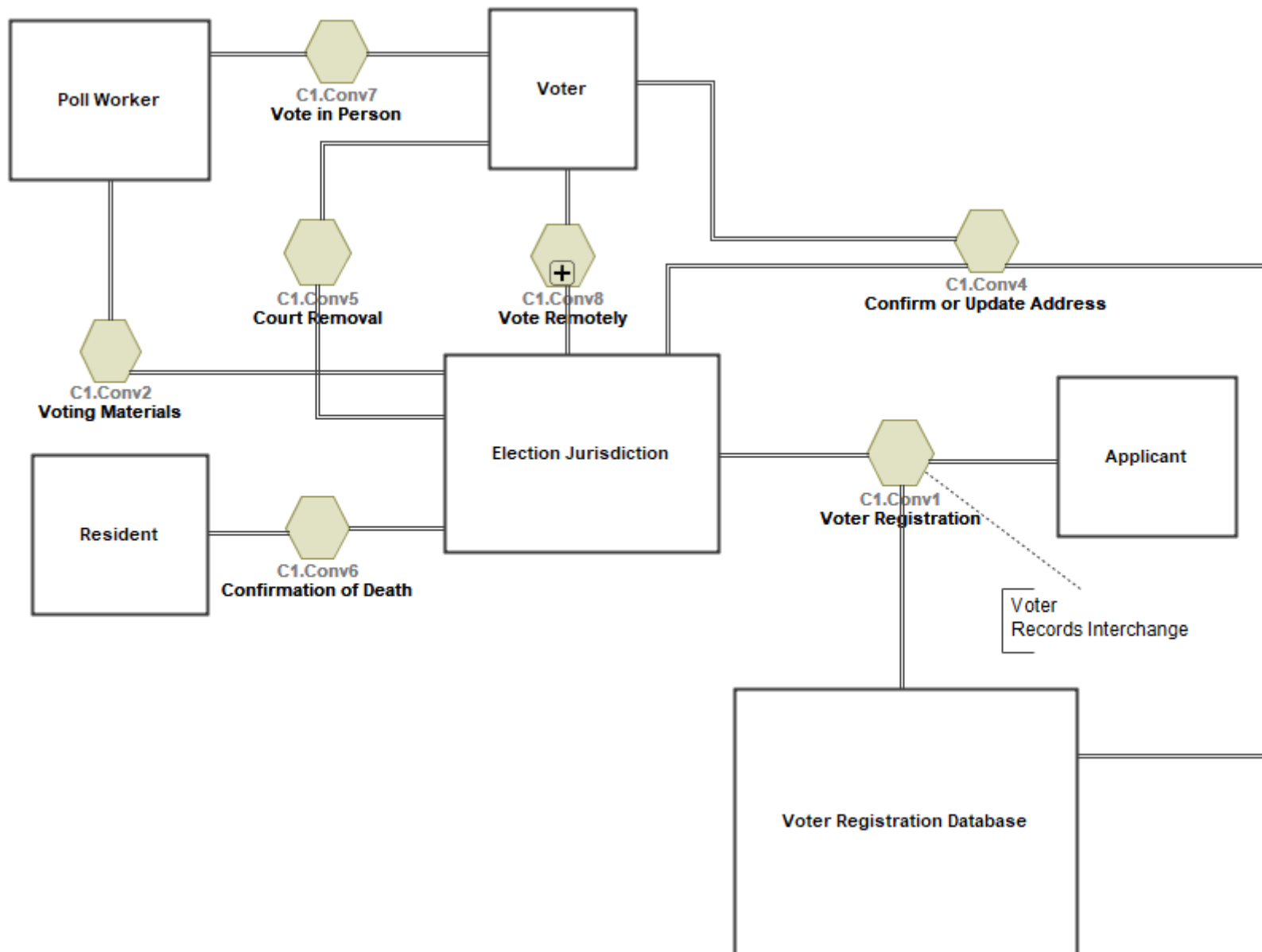
Figure 44.   Election Conversations

Conversation Node description:

Name	Description	MessageFlowRefs
Confirm or Update Address		
Confirmation of Death		
Court Removal		
Vote in Person		
Vote Remotely		
Voter Registration		
Voting Materials		

10 Business Data

Diagram Election Business Data
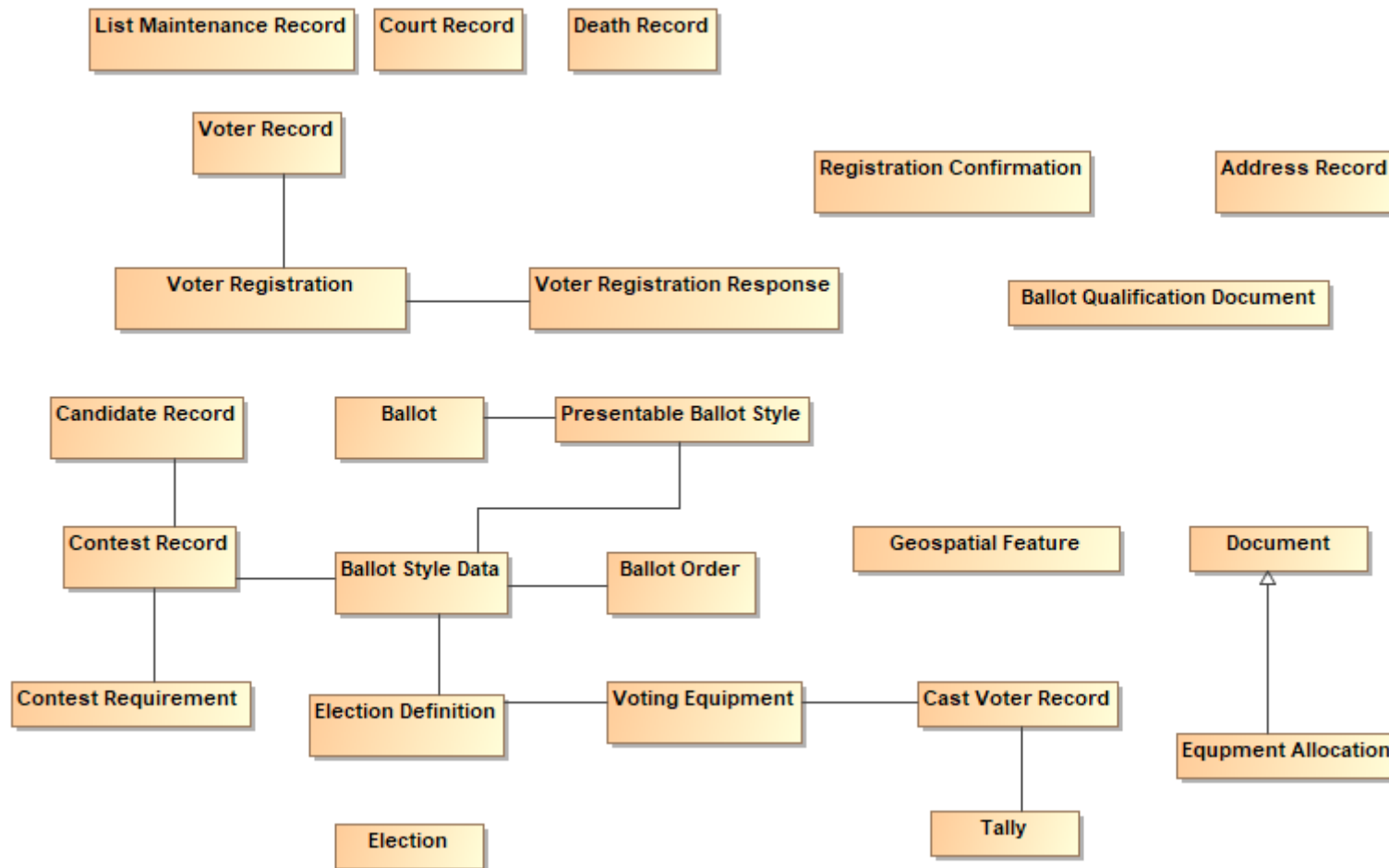
Figure 45.   Election Business Data

Business Data Class descriptions:

Name	Description	Attributes	

Name	Description	Attributes
Address Record		
Ballot		•
Ballot Order		•
Ballot Qualification Document		
Ballot Style Data		• • • •
Candidate Record	A record containing all the known facts about a candidate. If the candidate is also a voter within the election authority, then this record is a superset of the voter registration record.	•
Cast Voter Record		• •
Contest Record		• • •
Contest Requirement		•
Court Record	A court action that may require a change to a voter's record.	
Death Record	A record from a trusted source of death information, such as state department of health records, Social Security death index, NAPHSIS STEVE, etc.	

Name	Description	Attributes
Document		
Election		
Election Definition		• •
Equpment Allocation		
Geospatial Feature		
List Maintenance Record	A record indicating a potential update to a voter's record from an external source or event.	
Presentable Ballot Style		• •
Registration Confirmation		
Tally		•
Voter Record	A record representing all the known facts about a voter.	•
Voter Registration	A record containing sufficient information to determine the eligibility of the applicant to register to vote.	• •

Name	Description	Attributes	
Voter Registration Response	A record representing a response to a request to register to vote, such as its acceptance, acknowledgment, or rejection.	•	
Voting Equipment		• •	

11 Organization Structure

Resource descriptions:

Name	Description
Applicant	An individual who applies to receive an election service.
Authorized Personnel	An individual of group of individuals authorized to perform actions on behalf of the election jurisdiction.
Candidate	An individual who may appear on a ballot for election to office.
Court	An entity that provides records related to felony convictions, adjudications regarding competency, among others.
Delivery Service	
Election Jurisdiction	A geographical area to which a practical authority has been granted to administer elections for political offices. Areas of jurisdiction apply to local, state, and federal levels. Note: States, counties, cities, towns and townships are all examples of jurisdictions.
Electoral System	
Interested Party	An person or organization that is interested in the operation or outcome of an election.
Motor Vehicle Authority	
Political Party	
Poll Worker	A part-time worker that is trained by the election jurisdiction to perform a particular set of tasks on election day, such as checking in voters, or issuing ballots.
Printer	A role or organization responsible for the printing of documents, such as ballots.

Name	Description
⚇ Resident	An individual that has established residency at a fixed location.
⚇ Submitting Entity	An entity authorized to submit documents (e.g. candidate eligibility documents) on its own or another's behalf.
⚇ Voter	

Information system descriptions:

Name	Description
▤ Address Management System	
▤ Election Management System	
▤ Electronic Poll Book	
▤ Geographic Information System	
▤ Voter Registration Database	

Diagram Organization Container
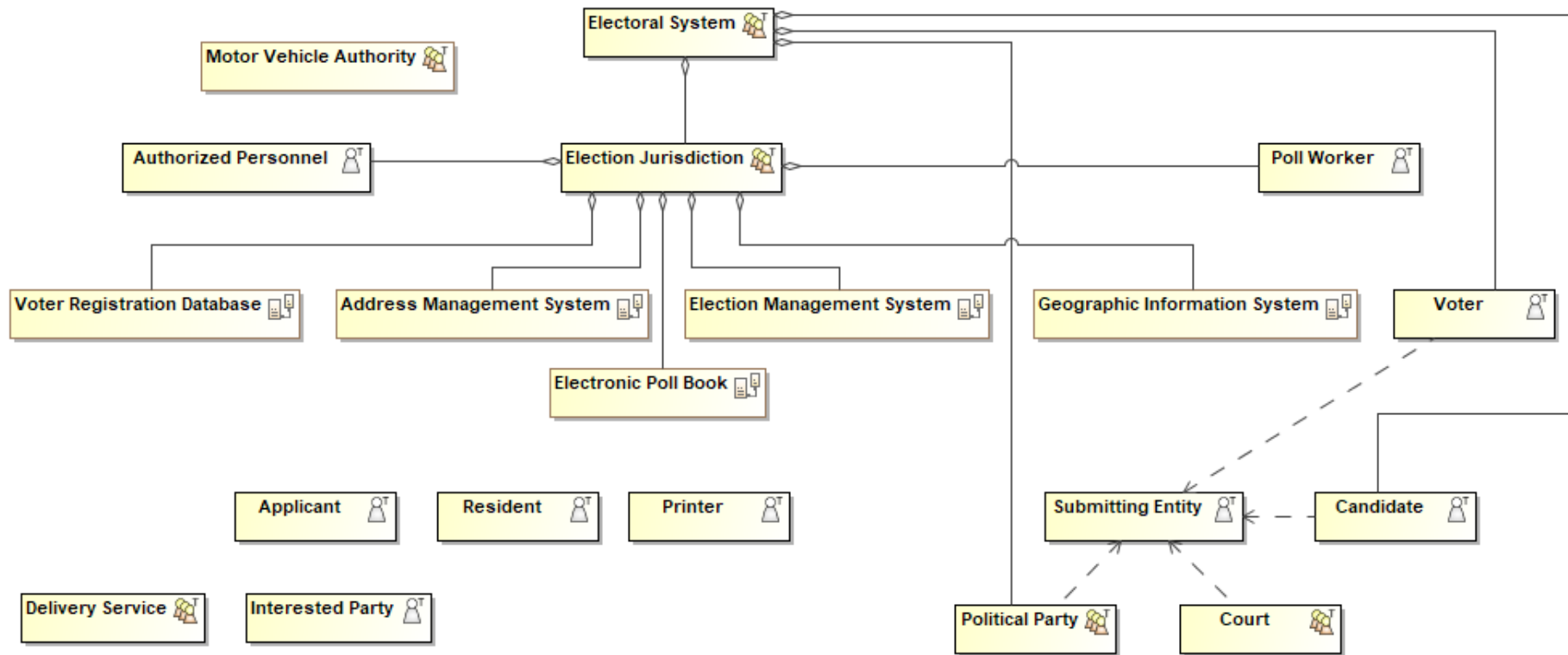
Figure 46.   Organization Container

Organization Element descriptions:

Name	Description
Interested Party	An person or organization that is interested in the operation or outcome of an election.
Resident	An individual that has established residency at a fixed location.
Authorized Personnel	An individual of group of individuals authorized to perform actions on behalf of the election jurisdiction.

Name	Description
Candidate	An individual who may appear on a ballot for election to office.
Voter	
Poll Worker	A part-time worker that is trained by the election jurisdiction to perform a particular set of tasks on election day, such as checking in voters, or issuing ballots.
Applicant	An individual who applies to receive an election service.
Printer	A role or organization responsible for the printing of documents, such as ballots.
Submitting Entity	An entity authorized to submit documents (e.g. candidate eligibility documents) on its own or another's behalf.
Geographic Information System	
Election Management System	
Voter Registration Database	
Address Management System	
Electronic Poll Book	
Court	An entity that provides records related to felony convictions, adjudications regarding competency, among others.
Political Party	

Name	Description
Motor Vehicle Authority	
Delivery Service	
Election Jurisdiction	A geographical area to which a practical authority has been granted to administer elections for political offices. Areas of jurisdiction apply to local, state, and federal levels. Note: States, counties, cities, towns and townships are all examples of jurisdictions.
Electoral System	

12 Legend

Used Symbols:

Symbol	Name	Description
	AdHocSubProcess	An Ad-Hoc Sub-Process is a specialized type of Sub-Process that is a group of Activities that have no required sequence relationships. A set of activities can be defined for the Process, but the sequence and number of performances for the Activities is determined by the performers of the Activities.
	BPMNProcess	A Process describes a sequence or flow of Activities in an enterprise with the objective of carrying work. In BPMN a Process is depicted as a graph of Flow Elements, which are a set of Activities, Events, Gateways and Sequence Flow that define finite execution semantics. Processes can be defined at any level from enterprise-wide Processes to Processes performed by a single person. Low-level Processes can be grouped together to achieve a common business goal. Note that BPMN uses the term Process specifically to mean a set of flow elements. It uses the terms Collaboration and Choreography when modeling the interaction between Processes. A Process is a CallableElement, allowing it to be referenced and reused by other Processes via the Call Activity construct. In this capacity, a Process may reference a set of Interfaces that define its external behavior. A Process is a reusable element and can be imported and used within other Definitions.
	BusinessPolicy	A Business Policy is a Directive that is not directly enforceable and whose purpose is to govern or guide the enterprise.
	BusinessRule	A Business Rule is a Directive, intended to govern, guide, or influence business behavior, in support of Business Policy that has been formulated in response to an Opportunity, Threat, Strength, or Weakness.
	BusinessRuleTask	A Business Rule Task provides a mechanism for the Process to provide input to a Business Rules Engine and to get the output of calculations that the Business Rules Engine might provide. The InputOutputSpecification of the Task will allow the Process to send data to and receive data from the Business Rules Engine.
	CallActivity	A Call Activity identifies a point in the Process where a global Process or a Global Task is used. The Call Activity acts as a 'wrapper' for the invocation of a global Process or Global Task within the execution. The activation of a call Activity results in the transfer of control to the called global Process or Global Task. The BPMN 2.0 Call Activity corresponds to the Reusable Sub-Process of BPMN 1.2. A BPMN 2.0 Sub-Process corresponds to the Embedded Sub-Process of BPMN 1.2.

Symbol	Name	Description
◇	Communication	A Communication is an atomic element for a Conversation diagram. It represents a set of Message Flow grouped together based on a single CorrelationKey. A Communication will involve two (2) or more Participants.
◉	CompensationEndEvent	
▤	ConditionalStartEvent	
«»	ConversationLink	
«»	DataAssociation	The DataAssociation class is a BaseElement contained by an Activity or Event, used to model how data is pushed into or pulled from item-aware elements. DataAssociation elements have one or more sources and a target; the source of the association is copied into the target. The ItemDefinition from the sourceRef and targetRef must have the same ItemDefinition or the DataAssociation MUST have a transformation Expression that transforms the source ItemDefinition into the target ItemDefinition.
🗎	DataInput	A DataInput is a declaration that a particular kind of data will be used as input of the InputOutputSpecification. There may be multiple data inputs associated with an InputOutputSpecification. The DataInput is an item-aware element. DataInput elements may appear in a Process diagram to show the inputs to the Process as whole, which are passed along as the inputs of Activities by DataAssociations.
🗎	DataObject	The DataObject class is an item-aware element. Data Object elements must be contained within Process or Sub-Process elements. Data Object elements are visually displayed on in a Process diagram.
➡	DataOutput	A DataInput is a declaration that a particular kind of data will be used as input of the InputOutputSpecification. There may be multiple data inputs associated with an InputOutputSpecification. The DataInput is an item-aware element. DataInput elements may appear in a Process diagram to show the inputs to the Process as whole, which are passed along as the inputs of Activities by DataAssociations.

Symbol	Name	Description
	DataStore	A DataStore provides a mechanism for Activities to retrieve or update stored information that will persist beyond the scope of the Process. The same DataStore can be visualized, through a Data Store Reference, in one (1) or more places in the Process. The Data Store Reference is an ItemAwareElement and can thus be used as the source or target for a Data Association. When data flows into or out of a Data Store Reference, it is effectively flowing into or out of the DataStore that is being referenced.
	ErrorBoundaryEvent	An Intermediate Error Catch Event can only be attached to the boundary of an activity, i.e. it may not be used in Normal Flow. If used in this context, it reacts to (catches) a named error, or to any error if a name is not specified.
	ErrorStartEvent	The Error Start Event is only allowed for triggering an in-line Event Sub-Process.
	EscalationBoundaryEvent	This type of Event is used for handling a named Escalation. If attached to the boundary of an activity, the Intermediate Event catches an Escalation. In contrast to an Error, an Escalation by default is assumed to not abort the activity to which the boundary event is attached. However, a modeler may decide to override this setting by using the notation described in the following.
	EscalationThrowIntermediateEvent	In Normal Flow, the Escalation Intermediate Event raises an Escalation.
	EventBasedGateway	The Event-Based Gateway represents a branching point in the Process where the alternative paths that follow the Gateway are based on Events that occur, rather than the evaluation of Expressions using Process data (as with an Exclusive or Inclusive Gateway). A specific Event, usually the receipt of a Message, determines the path that will be taken. Basically, the decision is made by another Participant, based on data that is not visible to Process, thus, requiring the use of the Event-Based Gateway. For example, if a company is waiting for a response from a customer they will perform one set of Activities if the customer responds "Yes" and another set of Activities if the customer responds "No." The customer's response determines which path is taken. The identity of the Message determines which path is taken. That is, the "Yes" Message and the "No" Message are different Messages — i.e., they are not the same Message with different values within a property of the Message. The receipt of the Message can be modeled with an Intermediate Event with a Message Trigger or a Receive Task. In addition to Messages, other Triggers for Intermediate Events can be used, such as Timers.

Symbol	Name	Description
	ExclusiveGateway	A diverging Exclusive Gateway (Decision) is used to create alternative paths within a Process flow. This is basically the "diversion point in the road" for a Process. For a given instance of the Process, only one of the paths can be taken. A Decision can be thought of as a question that is asked at a particular point in the Process. The question has a defined set of alternative answers. Each question is associated with a condition expression that is associated with a Gateway's outgoing Sequence Flow.
	ExternalInfluencer	External Influencers are those outside an enterprise's organizational boundaries that can impact its employment of Means or achievement of Ends.
	InclusiveGateway	A diverging Inclusive Gateway (Inclusive Decision) can be used to create alternative but also parallel paths within a Process flow. Unlike the Exclusive Gateway, all condition expressions are evaluated. The true evaluation of one condition expression does not exclude the evaluation of other condition expressions. All Sequence Flow with a true evaluation will be traversed by a Token. Since each path is considered to be independent, all combinations of the paths may be taken, from zero to all. However, it should be designed so that at least one path is taken.
	InformationSystem	
	LinkCatchIntermediateEvent	The Link Intermediate Events are only valid in Normal Flow, i.e. they may not be used on the boundary of an Activity. A Link is a mechanism for connecting two sections of a Process. Link Events can be used to create looping situations or to avoid long Sequence Flow lines. Link Event uses are limited to a single Process level (i.e., they cannot link a parent Process with a Sub-Process). Paired Intermediate Events can also be used as "Off-Page Connectors" for printing a Process across multiple pages. They can also be used as generic "Go To" objects within the Process level. There can be multiple Source Link Events, but there can only be one Target Link Event.
	LinkThrowIntermediateEvent	The Link Intermediate Events are only valid in Normal Flow, i.e. they may not be used on the boundary of an Activity. A Link is a mechanism for connecting two sections of a Process. Link Events can be used to create looping situations or to avoid long Sequence Flow lines. Link Event uses are limited to a single Process level (i.e., they cannot link a parent Process with a Sub-Process). Paired Intermediate Events can also be used as "Off-Page Connectors" for printing a Process across multiple pages. They can also be used as generic "Go To" objects within the Process level. There can be multiple Source Link Events, but there can only be one Target Link Event.

Symbol	Name	Description
☞	ManualTask	A Manual Task is a Task that is expected to be performed without the aid of any business process execution engine or any application. A Manual Task is not managed by any business process engine. It can be considered as an unmanaged Task, unmanaged in the sense of that the business process engine doesn't track the start and completion of such a Task. An example of this could be a paper based instruction for a telephone technician to install a telephone at a customer location.
✉	Message	A Message is used to depict the content of a communication between two Participants represented as Pools. In a Collaboration, the communication itself is represented by a Message Flow. In a Choreography, the communication is represented by a Choreography Task. The StructureDefinition is used to specify the Message structure.
✉	MessageBoundaryEvent	A Message arrives from a participant and triggers the Event. If a Message Event is attached to the boundary of an Activity, it will change the Normal Flow into an Exception Flow upon being triggered.
✉	MessageCatchIntermediateEvent	
✉	MessageEndEvent	
✉	MessageStartEvent	A Message arrives from a Participant and triggers the start of the Process.
⬠	MultipleCatchIntermediateEvent	This means that there are multiple Triggers assigned to the Event. If used within normal flow, the Event can "catch" the Trigger or "throw" the Triggers. When attached to the boundary of an activity, the Event can only "catch" the Trigger.
⬠	MultipleStartEvent	If the Start Event has more than one associated EventDefinition and the parallelMultiple attribute of the Start Event is true, then the Event MUST be displayed with the Parallel Multiple Event marker (an open plus sign)
●	NoneEndEvent	
○	NoneStartEvent	The None Start Event does not have a defined trigger. The None Start Event is used for all Sub-Processes, either embedded or called (reusable). Other types of Triggers are not used for a Sub-Process, since the flow of the Process
👥	Organization	MODAF: A group of persons, associated for a particular purpose. DoDAF: A type of Organization.
✛	ParallelGateway	A Parallel Gateway is used to synchronize (combine) parallel flows and to create parallel flows.

Symbol	Name	Description
	Post	MODAF: A Post (MODAF::PostType) is a type of point of contact or responsible person. Note that this is the type of post - e.g. Desk Officer, Commander Land Component, etc. DoDAF: A Post (DoDAF:: PersonType) is a category of persons defined by the role or roles they share that are relevant to an architecture.
	ReceiveTask	A Receive Task is a simple Task that is designed to wait for a Message to arrive from an external Participant (relative to the Process). Once the Message has been received, the Task is completed.
R	Resource	The Resource class is used to specify resources that can be referenced by Activities. These Resources can be Human Resources as well as any other resource assigned to Activities during Process execution time. The definition of a Resource is "abstract", because it only defines the Resource, without detailing how e.g. actual user IDs are associated at runtime. Multiple Activities can utilize the same Resource. Every Resource can define a set of ResourceParameters. These parameters can be used at runtime to define query e.g. into an Organizational Directory. Every Activity referencing a parameterized Resource can bind values available in the scope of the Activity to these parameters.
RR	ResourceRole	The ResourceRole element inherits the attributes and model associations of BaseElement. It also defines the additional model associations.
	SendTask	A Send Task is a simple Task that is designed to send a Message to an external Participant (relative to the Process). Once the Message has been sent, the Task is completed.
	SignalBoundaryEvent	The Signal Event can only receive a Signal when attached to the boundary of an activity. In this context, it will change the Normal Flow into an Exception Flow upon being triggered. The Signal Event differs from an Error Event in that the Signal defines a more general, non-error condition for interrupting activities (such as the successful completion of another activity) as well as having a larger scope than Error Events. When used to "catch" the signal, the Event marker will be unfilled.
	SignalCatchIntermediateEvent	This type of event is used for sending or receiving Signals. A Signal is for general communication within and across Process Levels, across Pools, and between Business Process Diagrams. A BPMN Signal is similar to a signal flare that shot into the sky for anyone who might be interested to notice and then react. Thus, there is a source of the Signal, but no specific intended target. This type of Intermediate Event can send or receive a Signal if the Event is part of a Normal Flow. The Event can only receive a Signal when attached to the boundary of an activity. The Signal Event differs from an Error Event in that the Signal defines a more general, non-error condition for interrupting activities (such as the successful completion of another activity) as well as having a larger scope than Error Events.

Symbol	Name	Description
⏵	SignalEndEvent	
△	SignalStartEvent	
⊕	SubConversation	A Sub-Conversation is a ConversationNode that is a hierarchical division within the parent Conversation. A Sub-Conversation is a graphical object within a Conversation, but it also can be "opened up" to show the lower-level Conversation, which consist of Message Flow, Communications, and/or other Sub-Conversations. The Sub-Conversation shares the Participants of its parent Conversation.
⊞	SubProcess	A Sub-Process is an Activity whose internal details have been modeled using Activities, Gateways, Events, and Sequence Flow. A Sub-Process is a graphical object within a Process, but it also can be "opened up" to show a lower-level Process. Sub-Processes define a contextual scope that can be used for attribute visibility, transactional scope, for the handling of exceptions, of Events, or for compensation. There are different types of Sub-Processes.
▭	Task	A Task is an atomic Activity within a Process flow. A Task is used when the work in the Process cannot be broken down to a finer level of detail. Generally, an end-user and/or applications are used to perform the Task when it is executed. There are different types of Tasks identified within BPMN to separate the types of inherent behavior that Tasks might represent. The list of Task types may be extended along with any corresponding indicators. A Task which is not further specified is called Abstract Task.
⬤	TerminateEndEvent	
☰	TextAnnotation	Text Annotations are a mechanism for a modeler to provide additional information for the reader of a BPMN Diagram.
⏰	TimerBoundaryEvent	A specific time-date or a specific cycle (e.g., every Monday at 9 am) can be set that will trigger the Event. If a Timer Event is attached to the boundary of an Activity, it will change the Normal Flow into an Exception Flow upon being triggered.
⏰	TimerCatchIntermediateEvent	In Normal Flow the Timer Intermediate Event acts as a delay mechanism based on a specific time-date or a specific cycle (e.g., every Monday at 9 am) can be set that will trigger the Event.
⏰	TimerStartEvent	A specific time-date or a specific cycle (e.g. every Monday at 9 am) can be set that will trigger the start of the Process.

Symbol	Name	Description
	UserTask	A User Task is a typical "workflow" Task where a human performer performs the Task with the assistance of a software application and is scheduled through a task list manager of some sort.

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[i] AQPC Process Goes Here

[ii] http://www.omg.org/spec/BPMN

[iii] https://www.zachman.com/about-the-zachman-framework