# Feature Requirements

*Detailed feature specifications will be sharded into separate documents in docs/prd/ directory for maintainability.*

## FR-001: Strategic Plan Management

**Priority:** P0 (Critical - MVP)

**Description:** Departments can create, edit, view, and manage 3-year strategic plans.

**User Stories:** - As a Department Director, I want to create a new strategic plan for my department so that I can document our priorities for the next 3 years. - As a Department Director, I want to edit my draft strategic plan so that I can refine it before submitting for review. - As a City Manager, I want to view all department strategic plans so that I can understand city-wide priorities.

**Acceptance Criteria:** - [ ] User can create a new strategic plan via “Create Plan” button - [ ] System pre-fills department info, fiscal years from previous plan - [ ] User can edit plan metadata: title, vision, executive summary - [ ] User can complete SWOT analysis via structured form (4 sections) - [ ] User can complete environmental scan (demographics, economic, regulatory, tech, community) - [ ] User can input benchmarking data (peer cities, metrics) - [ ] System auto-calculates total investment from initiatives - [ ] User can change plan status: draft → under\_review - [ ] System validates required fields before status change - [ ] User can view plan in read-only mode - [ ] User can export plan to PDF - [ ] System tracks created\_by, created\_at, updated\_at - [ ] RLS: Users can only see/edit plans from their municipality - [ ] RLS: Department users can only edit their own department’s plans

**Dependencies:** - Department and fiscal year data must exist - User authentication and role assignment

**Technical Notes:** - Use JSONB for swot\_analysis, environmental\_scan, benchmarking\_data - Implement progressive disclosure (don’t show all sections at once) - Auto-save on field blur or every 30 seconds

## FR-002: Strategic Goals

**Priority:** P0 (Critical - MVP)

**Description:** Users can define 3-5 strategic goals per plan with SMART objectives.

**User Stories:** - As a Department Director, I want to define strategic goals so that I can organize initiatives thematically. - As a Department Director, I want to align goals with city priorities so that my plan supports the city’s overall vision.

**Acceptance Criteria:** - [ ] User can add goals to a strategic plan (up to 5) - [ ] User can specify: goal number, title, description - [ ] User can select city priority alignment (dropdown from city config) - [ ] User can add multiple SMART objectives (bullet list, JSONB) - [ ] User can add success measures (bullet list, JSONB) - [ ] User can reorder goals (drag-and-drop or up/down buttons) - [ ] User can delete goals (with confirmation) - [ ] System prevents deleting goals with associated initiatives - [ ] Goals display in plan overview with initiative count

**Dependencies:** - Strategic plan must exist - City strategic priorities configured in system

**Technical Notes:** - Store objectives and success\_measures as JSONB arrays - Use goal\_number for ordering (1-5)

## FR-003: Initiative Management

**Priority:** P0 (Critical - MVP)

**Description:** Users can create detailed initiatives with financial analysis, expected outcomes, and priority levels.

**User Stories:** - As a Department Strategic Planner, I want to create initiatives so that I can document specific projects and investments. - As a Department Director, I want to prioritize initiatives (NEEDS/WANTS/NICE TO HAVES) so that funding decisions are clear. - As a Finance Director, I want to see initiative budgets so that I can validate funding.

**Acceptance Criteria:** - [ ] User can add initiative to a strategic goal - [ ] User can specify: initiative number, name, description, rationale - [ ] User can select priority level (NEED, WANT, NICE\_TO\_HAVE) - [ ] User can rank initiatives within priority tier - [ ] User can add expected outcomes (list) - [ ] User can input financial analysis: - [ ] Year 1/2/3 budget breakdown (personnel, equipment, services, training, materials, other) - [ ] Funding sources (multiple, with amounts and status) - [ ] User can input ROI analysis: - [ ] Financial ROI (savings, revenue, payback, 3-year impact) - [ ] Non-financial ROI (service quality, efficiency, risk, satisfaction) - [ ] User can add cost-benefit analysis (benefits vs. costs) - [ ] User can specify responsible party (text field) - [ ] User can change initiative status (not\_started, in\_progress, at\_risk, completed, deferred) - [ ] System validates: budget math, required fields - [ ] User can view initiative detail page - [ ] User can delete initiative (with confirmation)

**Dependencies:** - Strategic goal must exist - Fiscal years configured

**Technical Notes:** - Use JSONB for: expected\_outcomes, financial\_analysis, roi\_analysis, cost\_benefit\_analysis - Use numeric fields for: total\_year\_1\_cost, total\_year\_2\_cost, total\_year\_3\_cost (for aggregation) - Create normalized initiative\_budgets records on save for reporting

## FR-004: Initiative Budgets

**Priority:** P0 (Critical - MVP)

**Description:** System tracks initiative budgets in normalized table for aggregation and reporting.

**User Stories:** - As a Finance Director, I want to see total budget by fiscal year so that I can plan funding. - As a City Manager, I want to see budget by funding source so that I understand our grant dependence.

**Acceptance Criteria:** - [ ] System creates initiative\_budgets records when initiative saved - [ ] Each budget entry has: initiative, fiscal year, category, amount, funding source, status - [ ] User can query: Total budget by fiscal year - [ ] User can query: Total budget by funding source - [ ] User can query: Budget by category (personnel, equipment, etc.) - [ ] Dashboard shows budget aggregations with filters

**Dependencies:** - Initiative financial\_analysis data

**Technical Notes:** - Normalize JSONB financial\_analysis into initiative\_budgets rows - Update initiative\_budgets on initiative save/update

## FR-005: KPI Tracking

**Priority:** P0 (Critical - MVP)

**Description:** Users can define and track KPIs at initiative, goal, or plan level.

**User Stories:** - As a Department Director, I want to define KPIs so that I can measure success. - As a Department Planner, I want to update KPI actual values so that I can track progress. - As a City Manager, I want to see KPI progress so that I can hold departments accountable.

**Acceptance Criteria:** - [ ] User can add KPI to initiative, goal, or plan - [ ] User can specify: metric name, measurement frequency, baseline, year 1/2/3 targets - [ ] User can specify data source and responsible party - [ ] User can update actual values (date, value pairs in JSONB) - [ ] System calculates % progress toward target - [ ] Dashboard displays KPIs with visual indicators (green/yellow/red) - [ ] User can export KPI data to CSV

**Dependencies:** - Initiative, goal, or plan must exist

**Technical Notes:** - Use nullable FKs to allow KPI at any level - Store actual\_values as JSONB: {"2025-01-15": "85%", "2025-02-15": "87%"}

## FR-006: Dashboard & Reporting

**Priority:** P0 (Critical - MVP)

**Description:** Users can view dashboards tailored to their role with relevant data.

**User Stories:** - As a Department Director, I want to see my department’s plan summary so that I can monitor progress. - As a City Manager, I want to see city-wide budget overview so that I can make informed decisions. - As a Finance Director, I want to see funding source breakdown so that I can track grant funding.

**Acceptance Criteria:** - [ ] Department Dashboard shows: - [ ] Plan status and metadata - [ ] Initiatives by priority and status (counts and %) - [ ] Total budget by fiscal year - [ ] KPI progress summary - [ ] At-risk initiatives (status = at\_risk or delayed milestones) - [ ] City Manager Dashboard shows: - [ ] All departments’ plan status - [ ] City-wide budget by department - [ ] Budget by funding source - [ ] Initiative count by priority - [ ] At-risk initiatives across all departments - [ ] Finance Dashboard shows: - [ ] Budget by fiscal year - [ ] Budget by category - [ ] Funding source breakdown (secured vs. pending) - [ ] Funding scenario analysis (what-if) - [ ] All dashboards support filtering and drill-down - [ ] All dashboards can be exported to PDF

**Dependencies:** - Strategic plan and initiative data

**Technical Notes:** - Use Recharts or similar for visualizations - Implement server-side aggregation queries for performance

## FR-007: User Roles & Permissions

**Priority:** P0 (Critical - MVP)

**Description:** System enforces role-based access control via Supabase RLS.

**User Stories:** - As an Admin, I want to assign roles to users so that permissions are enforced. - As a Department Director, I want my staff to edit our plan so that we can collaborate. - As a City Manager, I want to view all plans but not edit them so that I can provide oversight.

**Acceptance Criteria:** - [ ] System supports roles: admin, department\_director, staff, city\_manager, finance, council, public - [ ] Admin can: - [ ] Create/edit/delete users - [ ] Assign roles and departments - [ ] View all data - [ ] Delete any record - [ ] Department Director can: - [ ] Create/edit/delete plans for their department - [ ] Add staff collaborators from their department - [ ] View collaborating departments’ initiatives - [ ] Staff can: - [ ] Edit plans for their department (if granted access) - [ ] Comment on plans - [ ] City Manager can: - [ ] View all departments’ plans - [ ] Comment on plans - [ ] Approve plans (change status) - [ ] Finance can: - [ ] View all departments’ budgets - [ ] Comment on budgets - [ ] Council can: - [ ] View approved and active plans - [ ] View dashboards (read-only) - [ ] Public can: - [ ] View published (active) plans only - [ ] No access to draft or under review plans - [ ] RLS policies enforce all permissions at database level

**Dependencies:** - Supabase Auth configured - User table with role field

**Technical Notes:** - Implement RLS policies per table - Use helper functions: auth.user\_municipality\_id(), auth.user\_department\_id(), auth.user\_role()

## FR-008: Comments & Collaboration

**Priority:** P0 (Critical - MVP)

**Description:** Users can add threaded comments to plans, goals, and initiatives for review feedback.

**User Stories:** - As a City Manager, I want to comment on initiatives so that I can provide feedback to departments. - As a Department Director, I want to reply to comments so that I can address feedback. - As a Finance Director, I want to mark comments resolved so that I know issues are addressed.

**Acceptance Criteria:** - [ ] User can add comment to plan, goal, initiative, or milestone - [ ] User can reply to comments (threading) - [ ] User can edit their own comments - [ ] User can delete their own comments (admin can delete any) - [ ] User can mark comment as resolved - [ ] System shows unresolved comment count on entities - [ ] System notifies participants when new comments added (future: Phase 2) - [ ] Comments display with author name, timestamp, and content - [ ] Comments support markdown formatting

**Dependencies:** - User authentication

**Technical Notes:** - Use parent\_comment\_id for threading - Implement rich text editor (e.g., Tiptap, Lexical)

## FR-009: Plan Approval Workflow

**Priority:** P0 (Critical - MVP)

**Description:** Strategic plans follow approval workflow with status transitions.

**User Stories:** - As a Department Director, I want to submit my plan for review so that it can be approved. - As a City Manager, I want to approve plans so that they become active. - As a Department Director, I want to track approval status so that I know where my plan stands.

**Acceptance Criteria:** - [ ] Plan has status field with workflow: - [ ] draft → under\_review → approved → active → archived - [ ] Department Director can change status: draft → under\_review - [ ] City Manager can change status: under\_review → approved or under\_review → draft (request revisions) - [ ] City Manager can change status: approved → active (after Council approval) - [ ] Admin can change status to archived (end of planning cycle) - [ ] System validates required fields before status change from draft - [ ] System tracks approved\_by, approved\_at, published\_at - [ ] System creates audit log entry on status change - [ ] Status changes trigger notifications (future: Phase 2)

**Dependencies:** - Strategic plan records - User roles

**Technical Notes:** - Implement state machine logic in application code - RLS policies enforce who can change status

## FR-010: Audit Trail

**Priority:** P0 (Critical - MVP)

**Description:** System logs all changes to strategic plans, goals, initiatives, and budgets for accountability.

**User Stories:** - As a City Manager, I want to see who changed a budget so that I can ensure accountability. - As an Admin, I want to audit plan changes so that I can investigate issues.

**Acceptance Criteria:** - [ ] System logs insert/update/delete on: strategic\_plans, strategic\_goals, initiatives, initiative\_budgets - [ ] Audit log captures: table\_name, record\_id, action, old\_values, new\_values, changed\_by, changed\_at, ip\_address, user\_agent - [ ] Audit logs are immutable (no edit/delete) - [ ] Admin can view audit logs via UI - [ ] Admin can filter audit logs by: table, record, user, date range - [ ] System exports audit log to CSV

**Dependencies:** - User authentication

**Technical Notes:** - Use PostgreSQL triggers to auto-populate audit\_logs - Store old\_values and new\_values as JSONB

## FR-011: PDF Export

**Priority:** P0 (Critical - MVP)

**Description:** Users can export strategic plans to PDF for City Council packets and offline review.

**User Stories:** - As a Department Director, I want to export my plan to PDF so that I can include it in City Council packets. - As a City Manager, I want to export consolidated reports to PDF so that I can present to Council.

**Acceptance Criteria:** - [ ] User can click “Export to PDF” button on plan detail page - [ ] System generates PDF matching official strategic plan template format - [ ] PDF includes: all sections, tables, charts, budget data - [ ] PDF includes cover page with: department, fiscal years, approval date, version - [ ] PDF includes table of contents with page numbers - [ ] PDF downloads to user’s device - [ ] PDF generation completes within 30 seconds

**Dependencies:** - Strategic plan data complete

**Technical Notes:** - Use react-pdf or Puppeteer for PDF generation - Consider server-side rendering for complex layouts