

The Refinery

User Manual

Take in every crash report - electronic, scanned paper or keyed by hand - clean it with an AI helper that only ever suggests, confirm every value with a person, place the crash on the map, and file a finished, validated record the state can rely on.

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Contents

PART 1 - THE BASICS

1. Welcome to the Refinery

What it does, where it sits, the three stores, roles, a report start to finish

2. Getting around

Signing in, the top bar, the Home screen, conventions used everywhere

3. How a report moves through the Refinery

Intake channels, cases and crash keys, the AI pre-pass, the two lanes, the Vault, statuses

PART 2 - DAILY WORK

4. The Validation queue

Finding your next report, filters, the filter lock, FIFO-only groups, who has what

5. Reviewing a report (Validation)

The screen, the report image, the field list, AI suggestions, rule problems, saving, completing, locks

6. Locating a crash (Location)

The Location queue, the map, agreeing or moving the point, Snap & Derive, the location fields

7. Manual entry - keying a paper report

The scan queue, adding scans, the setup questions, keying, checking for a match, adding a vehicle

8. Intake matching

Deciding which case a held report belongs to: match, new case, or management

9. AI pre-pass failures

Reports the AI couldn't process: retry, or send to manual entry

PART 3 - FINDING AND TRACKING

10. Cases

The case list, a case's page: status, reports, messages, documents, photos, activity log, the Vault record

11. Search - finding a report for a customer

Searching, driver reports, a case's documents, sending a document by email

PART 4 - SPECIALIST WORK

12. Work zone review

Approving or disapproving crashes the officer marked as in a work zone

13. FARS - fatal crashes

Pre-reports, the work queue, matching, not a fatal, transmitted, FARS search, FARS Manifest

PART 5 - MANAGEMENT AND SUPERVISION

14. Management

The management worklist, resolving a case, answering staff, hold, System Admin, the Vault gate, split, merge, delete

15. Dashboards

My dashboard, the supervisor dashboards, Local Admin and Manager, date ranges, exports, scheduled reports

16. Metrics and reports

Operations metrics, where records stand, AI flags, rules that blocked, reviewers, the downloadable report

PART 6 - ADMINISTRATION

17. Administration at a glance

Who can administer what, the admin tabs, the System Admin dashboard, making changes safely

18. Access - users, roles and county groups

Adding users, bulk import, pausing, roles and permissions, per-user overrides, county groups

19. System Settings

FARS, search, management, work zone and SPD, notes and annotations, deleted cases, AI, entry defaults, imaging, photos, street view

20. Intake and the Doctor

Where reports come in, sweeping folders, the push endpoints, the health checks, a stuck report's autopsy

21. Records, deletes and the Public DB

Deleting and restoring, finding a deleted case, purging a public record, choosing what the Public DB holds

22. Rules, priority classes and lookup values

Your state's business rules, the MMUCC6 edit rules, which reports are worked first, and code lists

23. Fields and forms

Adding a field, which lane owns it, required fields, hiding a field, lining up the form boxes

24. Mapping and the national export

Reading a new report format, the MMUCC6 mapping studio, values unique to your state, what goes to NHTSA

25. Legacy output - keeping older systems fed

Mapping Refinery data into your state's old tables, live and scheduled pushes, re-pushes, status codes

26. Other administration screens

Sent to Admin, Waived Reports, Learning, FARS alcohol and drug mapping, Work Zone Config

PART 7 - WALKTHROUGHS AND TROUBLESHOOTING

27. Walkthroughs

A working day for each role, and the common situations start to finish

28. Troubleshooting

When something isn't where you expect it, won't save, or won't finish - and what to do

PART 8 - REFERENCE

29. Quick reference

Every permission, status codes, labels, messages, keyboard shortcuts, glossary

30. Release notes and known limits

What this version does, what it doesn't do yet, and what depends on your installation

APPENDICES

31. Appendix A - Every field

Every field in the record: its label, place, kind, lane and whether it has a code list

32. Appendix B - Every MMUCC6 check

The national consistency checks, in the words a reviewer sees, and whether each must be fixed

1. Welcome to the Refinery

1.1 What the Refinery does

The Refinery is where a state's crash reports are taken in, cleaned and finished before they become the state's official crash record. Every report an officer or a driver files passes through it once. When the Refinery is done with a report, the data in it has been checked by a person, field by field, and the crash has been placed on the map.

It brings together, in one place:

- **Intake from every channel** - electronic XML reports from officers' reporting systems, scanned paper reports, and reports keyed in by hand from paper.
- **An AI helper that only suggests.** Before anyone opens a report, a local AI model reads it, checks it against the state's rules and outside references, and proposes corrections with a confidence score. It never changes a value on its own.
- **A person confirms every value.** A reviewer works the report once, in place, with the officer's value, the AI's suggestion and the report image side by side.
- **Location work, in parallel.** A separate team places the crash on the map and snaps it to the road network, while the data review goes on.
- **The Vault** - the finished, validated record. A report only reaches it when both the data and the location work are done and it passes every blocking rule.
- **Everything around the report** - cases that hold every report about one crash, amendments, driver reports, management review, work zone and FARS work, search for the front desk, dashboards and metrics.

Every change a person makes is kept - who, when, what it was and what it became. Those corrections are also collected as learning data: the Learning screen finds fields where people keep overriding the AI and lets an administrator turn the pattern into a correction the AI then suggests, so over time people have less to fix. (The AI model itself isn't retrained inside the Refinery; the collected corrections are what a future model would be trained on.)

1.2 Where the Refinery sits

The Refinery is the layer before a state's crash database. It does not replace the officers' reporting systems, and it does not send data to NHTSA itself:

Before the Refinery	The Refinery	After the Refinery
Officers' reporting systems (for example TraCS) send electronic reports. Paper reports arrive by mail and are scanned. Drivers file their own reports.	Takes each report in, files it into a case, cleans and confirms it, places it on the map, and keeps the finished record in the Vault.	Crosswalk reads the Vault and produces the national MMUCC6 format for NHTSA. The state's older systems can be kept fed through Legacy output. FARS Manifest (if your state uses it) works fatal cases.

The Refinery also keeps every official document - the report PDF, the original XML, photos and later documents - and hands them to your state's **imaging system**, which is the long-term home for documents.

Air-gapped AI: The AI model runs entirely on your state's own server, from a file, with no network connection of any kind. Crash data is never sent to an outside AI service. The only outside services the Refinery may call are trusted federal lookups such as the NHTSA VIN decoder and the FMCSA carrier registry.

1.3 The three stores

The Refinery keeps three separate databases. You will see their names on some screens:

Store	What it holds	Who sees it
Public DB	A copy of each report's data as it arrived, minus any fields your System Admin has left out (by default every name, address, birth date, phone, licence, plate, VIN, insurance policy, citation number and the narrative). Never the raw XML or images, and never a driver's own report when your state treats those as confidential.	It is a public access point - the only store meant for outside eyes.
Hub	The working copy of every report: the AI's suggestions, every edit, the case, the conversation with management, the full activity log.	Refinery staff, by role.
Vault	The finished record of each report that passed both lanes and every blocking rule.	Refinery staff; read by Crosswalk and Legacy output.

The Public DB is the report as it arrived and never changes afterwards, with one exception: a System Admin can remove a record from it under a court order (see the Public DB chapter).

A validity gate, not a lock: A report in the Vault can still be pulled back for more work (through management) and put back. The Vault always holds the latest approved version.

1.4 Who can do what

What you see and can do depends on your role. Your administrator gives you one or more roles, and can add or remove single permissions for you. The standard roles are:

Role	What they do
Reviewer	Works the Validation queue: reviews each report's data and marks validation complete.
Approver / Escalator	Reviewer roles that also carry the Approve or Escalate permission. Today every Reviewer can finish a report and route it to management, so these work exactly like Reviewer; the permissions are reserved for a state that wants to split those jobs.
Mapper	Works the Location queue: places each crash on the map.
Transcriber	Keys paper reports in from scans (Manual entry) and resolves intake matches.
Front Desk	Search only: finds a crash report for a customer and sends its documents.

Role	What they do
FARS Analyst	Works fatal crashes on the FARS screen (or in FARS Manifest).
Data Supervisor	A Reviewer with a dashboard of their Validation team.
Location Supervisor	A Mapper with a dashboard of their Location team.
Management Resolver	Works the Management queue: answers, resolves, splits and merges cases sent up by staff.
Report Viewer	Metrics and reports only.
Local Admin	Both lanes, intake, reports, and the team rosters and staff assignments.
Manager	Everything a Local Admin can do, plus giving other people the Local Admin role.
Administrator (System Admin)	Everything, including every admin screen.

The full list of permissions, and which role has each, is in the Reference chapter.

1.5 A crash report, start to finish

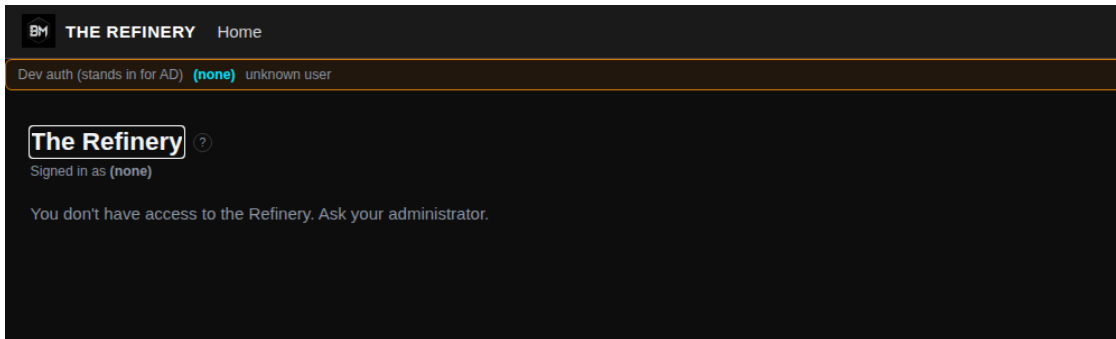
1. A report **arrives** - an electronic XML from an officer's system, a scanned paper report, or a driver's report. The Refinery files it into a **case** (a new one, or the case it belongs to).
2. The **AI pre-pass** reads it and attaches suggestions, lookups and flags to the fields. The report enters the **Validation** and **Location** queues.
3. A **Reviewer** opens it in Validation, checks the data against the report image, accepts or corrects each suggestion, and marks **Validation complete**.
4. At the same time a **Mapper** opens it in Location, places the crash, snaps it to the road and marks the **Location lane complete**.
5. When both lanes are done and no blocking rule is broken, the report goes to the **Vault** automatically.
6. If something is wrong that the reviewer can't fix, it is **routed to management**, answered, and sent back - or resolved there.
7. Later, an **amendment** or another report about the same crash may arrive. It files into the same case, and the reviewer works only what changed.

2. Getting around

2.1 Signing in

The Refinery uses your state's own sign-in. On a live system you open the Refinery's address, your state's sign-in page asks for the same user name and password you use for your computer, and the Refinery opens. You never set a separate Refinery password.

What you can do is decided inside the Refinery. Signing in only proves who you are. Your administrator creates your Refinery account (usually after you have asked for access and signed your state's paperwork) and gives you your roles. Until then you'll see only:



What someone without a Refinery account sees

Once your account has roles, the Home screen shows a tile for each thing you can do. If you are given a new permission while you are signed in, it works on your next click - you don't have to sign out.

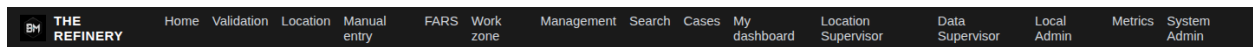
Test and demo systems: A test system shows an amber **Dev auth (stands in for AD)** bar under the top bar, with your stand-in identity and a **Switch user** link. It stands in for your state's sign-in so testers can try each role. A public demo shows a **Sample data - Try it as** bar instead, with one link per role. A live system has neither.



The stand-in sign-in bar on a test system

2.2 The top bar

The top bar is on every screen. It shows only the places your roles let you go:

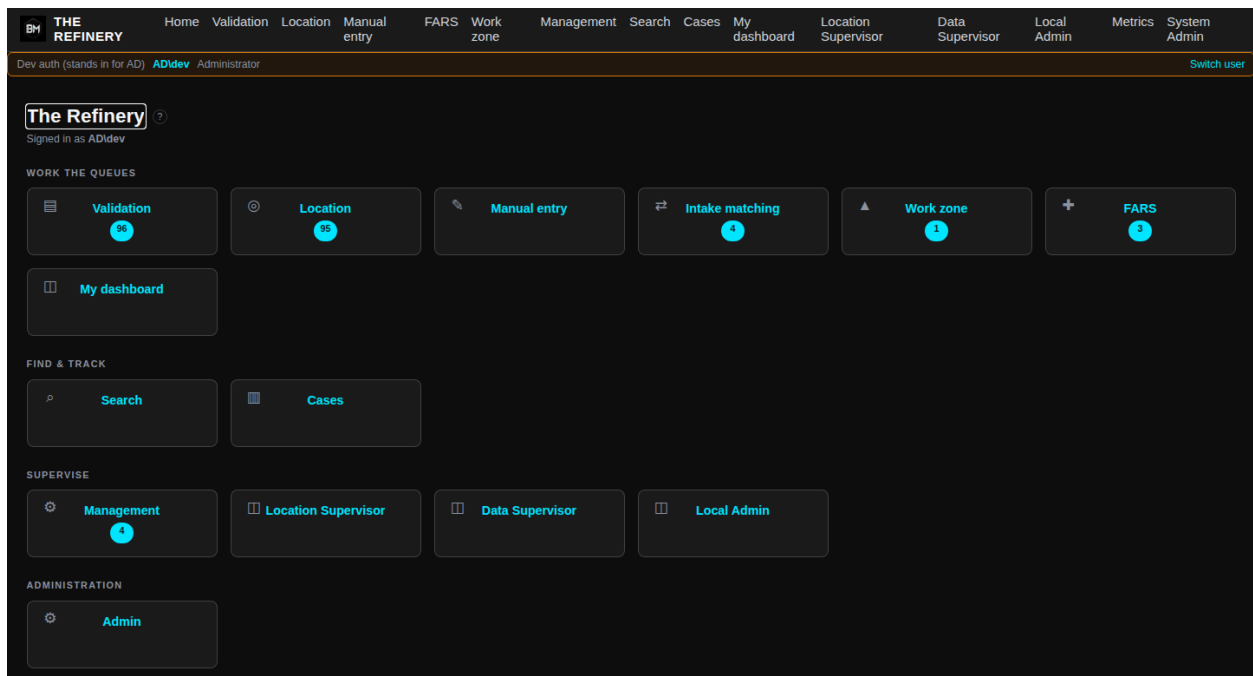


The top bar for a System Admin, who sees every link

Link	Goes to	Who sees it
Home	Your tiles (section 2.3).	Everyone
Validation	The Validation queue - the data lane.	Review
Location	The Location queue - the map lane.	Location
Manual entry	Scanned paper reports waiting to be keyed.	Transcribe
FARS	The FARS screen, or FARS Manifest if your state uses it.	FARS

Link	Goes to	Who sees it
Work zone	Work zone crashes to approve or disapprove (hidden if your state doesn't track work zones).	Review
Management	Cases staff have sent up for a decision.	Manage escalations
Search	Find a report for a customer.	Search
Cases	Every case, by the date it was opened.	Review
My dashboard	Your own work.	Individual dashboard
Location Supervisor / Data Supervisor	Your team's roster and pace.	Supervisor dashboards
Local Admin	Both lanes' rosters and staff assignments.	Local Admin
Metrics	Operations metrics and reports.	Run reports
System Admin	The administration dashboard and every admin screen.	Administer

2.3 The Home screen



The Home screen for a System Admin

Home groups your tiles into four rows:

- **Work the queues** - Validation, Location, Manual entry, Intake matching, Work zone, FARS and My dashboard.
- **Find & track** - Search and Cases.
- **Supervise** - Management and the supervisor and Local Admin dashboards.

- **Administration** - one Admin tile that opens the System Admin dashboard. It appears if you hold any administration permission, even a single one.

The **number** on a tile is how much is waiting there right now - reports in the Validation queue, reports still needing a location, reports waiting for a case match, work zone crashes not yet decided, open FARS pre-reports, cases in management. It counts everything, not just the counties you are assigned to. Hover over a tile's icon for a one-line description.

2.4 Conventions used everywhere

Help behind the [?]

Screens carry no paragraphs of instructions. Wherever something needs explaining there is a small ? button; hover over it (or tab to it) to read the explanation, and move away to close it.

The screenshot shows the 'Validation Queue' section of the application. A 'Browse Queue' button is visible. A tooltip is open over a question mark icon, explaining the validation lane process. Below the tooltip is a table with the following data:

Channel	Case	Status	Date	County	Priority
Xml	226000017	New	2026-04-01	Buffalo	Truck/Bus
Xml	226000018	New	2026-04-04	Buffalo	Truck/Bus
Xml	226000024	Driver	2025-11-04	Buffalo	Truck/Bus
Xml	226000030	Driver	2026-03-02	Buffalo	Truck/Bus
Xml	226000028	Amended	2026-02-27	Buffalo	Fatal Truck/Bus
Xml	226000029	Amended	2026-03-05	Buffalo	Truck/Bus
Xml	226000031	Amended	2026-03-14	Buffalo	Truck/Bus
Xml	226000033	Amended	2026-03-20	Buffalo	Truck/Bus

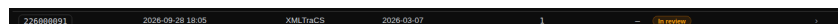
A help tip open

Codes always show their meaning

Every coded value is shown with its meaning, in the form **01 - Yes**: the code, a dash, then the label. Drop-down lists read the same way, so you never have to remember what a bare number means.

Lists page at 50

Every long list shows 50 rows at a time, with **Prev** and **Next** and the page number below it.



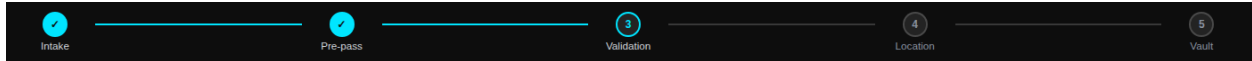
The paging bar under a list

Date boxes

Date boxes take the date you type, exactly. Type it straight through (month, day, year). A **From** and **To** pair are separate boxes: filling one never changes the other. If you type a From date that is later than the To date, the screen says so and asks you to swap them rather than guessing.

Where a report is in its journey

A report's own screens show a five-step bar - **Intake**, **Pre-pass**, **Validation**, **Location**, **Vault** - with a tick on each step that's done and the current step circled. If the report has gone off the normal path (routed to management, withdrawn, replaced by a later report) a line under the bar says so.

*The journey bar on a report*

Messages

After you act, a short message appears near the button you pressed: green or plain for done (for example **Progress saved 14:32:05**), red for something you need to fix, with what's wrong in plain words. Nothing is saved when a red message says so.

Locked records

A report you open is **yours** until you unlock it. Anyone else who opens it sees a **locked by** banner naming you and a read-only copy. Section 5 explains locking in full.

2.5 The online demo

Bad Marine's online demo of the Refinery runs on made-up reports, so anyone can try every screen without an account. A bar under the top bar marks it:

*The demo bar: sample data, one click per role, and this manual*

- **Sample data** - every report, person, vehicle and case is invented. Nothing in the demo is real.
- **Try it as** - click a role (**Reviewer**, **Location**, **Supervisor**, **FARS**, **Admin**) to see the Refinery as that person would. There's no sign-in; switch roles at any time.
- **User manual (PDF)** - opens this manual in a new tab.
- The demo is one shared copy: other visitors may be working the same queues, and your changes may be seen by them. Every night the demo goes back to the starting sample.
- Nothing leaves the demo: no email is sent, the outside lookups (driver records, vehicle and carrier checks, the imaging system) use built-in stand-ins, and an upload takes at most 5 files of up to 10 MB each.
- The AI suggestions were worked out in advance for the sample reports; the demo doesn't run the AI model itself.

3. How a report moves through the Refinery

This chapter explains what happens to a report between the moment it arrives and the moment it is filed in the Vault. You don't need all of it to do your job, but knowing the path makes every screen easier to understand.

3.1 How reports arrive

Channel	How it arrives	What happens next
Electronic (XML)	An officer's reporting system drops the report as an XML file into a folder the Refinery watches, or sends it to the Refinery's intake address.	Read automatically. The report image inside the XML becomes the report PDF.
Scanned paper (OCR)	A paper report is scanned and read by the optical character reader (a separate, optional tool). Each value arrives with a confidence score.	Filed like an XML report. Low-confidence values are shown to the reviewer.
Manual entry	Paper reports that are scanned but not read by OCR land in the Manual entry queue as PDFs.	A transcriber sets the report up (report type, date, county, the people and vehicles) and keys it on the review screen.
Driver's report (DR-41)	A driver's own report of a crash, electronically or keyed from paper.	Kept inside the Refinery only - never in the Public DB when your state treats them as confidential.

A folder is checked on a timer (every five minutes by default). A file still being written is left alone for ten seconds so it is never read half-finished. Files are processed oldest first, so reports are filed in the order they arrived.

The same report twice: If the exact same report is sent again, nothing new is filed; the case's log notes it was resubmitted with no changes. If an older version of a report arrives after a newer one was filed, it is not filed either - it would roll the case back.

3.2 Cases and crash keys

A **case** is a filing cabinet for one crash. The first report about a crash opens the case and gives it a **crash key**, the state's number for that crash. Every later report about the same crash - an amendment, a report from a second agency, a driver's report, a supplement - is filed into the same case under the same crash key.

The crash key is made by the Refinery, not taken from the report. The standard format is nine digits: a year part (2 followed by the last two digits of the year the report entered the system, so 2026 gives 226) and a six-digit counter that starts again every January 1 - for example **226000017**. Another state can use its own format; your administrator sets it up once.

How the Refinery decides which case a report belongs to

1. **Same agency case number, same agency, same county** - it is the same report sent again with changes: an **amendment**. It is filed into that case automatically.
2. **A driver's report and a police report of the same crash** - same county, the exact same crash date, and the same driver's licence number on both. They are filed together automatically, whichever arrived first. The name doesn't have to match (someone may write Jim on their report when their licence says James).
3. **Close, but not certain** - same county, a crash date within a day, and a shared last name (spelled the same or sounding alike). The report is **held** in Intake matching, with no crash key yet, until a person decides.
4. **Nothing close** - a new case opens.

Held reports: A report waiting in Intake matching isn't in any work queue yet. It enters the queues as soon as someone files it into a case or starts a new one.

3.3 The AI pre-pass

Before a person opens a report, the Refinery works it over once. This is the **pre-pass**. A report waiting for it has the status **Dirty**; when it is done the report becomes **In review** and appears in the queues. The pre-pass:

- **Checks the state's rules** - for example, a heavy truck needs its truck supplement - and proposes a fix where the rule says what the value should be.
- **Looks things up** - the vehicle from its VIN (NHTSA's VIN decoder), a commercial carrier from its USDOT number (FMCSA), the driver's licence and the vehicle registration from the state's DMV, where those connections are set up. What a trusted lookup returns is written straight into the field as the answer to confirm.
- **Reads the narrative** - the officer's written description - and flags coded values that don't agree with it.
- **Fills blanks** - a coded field left empty on the form, that nothing else could determine, is filled with **96 - Not Stated** (the code your state uses for that).
- **Raises flags** - soft warnings for a person to look at, such as a vehicle that hit a state-owned fixed object.

Each suggestion carries a **confidence** from 0 to 100 and a short explanation of where it came from. A suggestion is only ever a suggestion: the officer's value stays in place until a person accepts or changes it.

If the pre-pass fails: A report the AI couldn't process goes to the **AI failures** list for someone to run again or send on without suggestions. It isn't lost.

3.4 Two lanes, in parallel

Lane	Who	What they do	Done when
Validation (data)	Reviewers	Check every value against the report image; accept, change or leave each AI suggestion; fix any broken rule.	Mark validation complete succeeds.

Lane	Who	What they do	Done when
Location (map)	Mappers	Agree with or move the crash's point, snap it to the road, fill the location fields.	Complete Location Lane succeeds.

The two lanes are worked at the same time by different people. Neither waits for the other. A completed lane is closed: it can't be opened again from its queue. If more work is needed later, management pulls the report back.

3.5 The Vault

As soon as **both** lanes are complete, the Refinery checks the report one last time against every **blocking rule** - the state's own rules and the national MMUCC edit rules. If nothing blocks it, the report is filed in the Vault and its case moves on. If a rule still fails, the report is held and the reason is shown; a System Admin can **waive** a specific rule for a specific report when the officer's report really is correct as written.

3.6 Statuses you'll see

Status	Meaning
Dirty	Waiting for the AI pre-pass.
In review	In the queues - one or both lanes still to do.
Pending case match	Held in Intake matching; no case yet.
Approved	Both lanes done, every rule passed - in the Vault.
Routed to management	Sent up by staff; out of the normal queues until answered.
Deleted	Withdrawn. Hidden from everyone but a System Admin, who can restore it.
Superseded	Replaced by a later report in the same case; still listed in the case.
Driver report (companion)	A driver's report kept beside the case's police report, which is the primary report.

3.7 Amendments and more than one report

When an amendment arrives, it becomes the case's current report and the earlier one is kept in the case, marked superseded. If a reviewer had already worked the earlier report, the amendment shows which fields changed, so only those need checking. If nobody had touched it yet, the amendment simply takes its place; the case's log records the replacement and how many fields differed.

A police report is always the case's primary report over a driver's report. If a driver's report opened the case first, a later police report becomes primary and the driver's report stays beside it as a companion.

3.8 Priority

Some reports are worked first - for example truck and bus crashes, fatal crashes, crashes involving state property, and crashes with serious injuries. Priority only changes the order of the queues; the work itself is the same. A report's priority shows as a colored label next to its number. Your System Admin decides which kinds of report are priority classes and in which order.

4. The Validation queue

The Validation queue holds every report whose data still needs a person's check. Open it with **Validation** in the top bar or the Validation tile on Home.

Validation Queue ?							
Browse Queue		From mm/dd/yyyy	To mm/dd/yyyy	County (any)	Case # 226000003	Lock	95 of 95 Work Next Case (FIFO)
Channel	Case	Work Type	Crash Date	County	Priority	Assigned	
Xml	226000017	New	2026-04-01	Buffalo	Truck/Bus	—	Open
Xml	226000018	New	2026-04-04	Buffalo	Truck/Bus	—	Open
Xml	226000024	Driver	2025-11-04	Buffalo	Truck/Bus	—	Open
Xml	226000030	Driver	2026-03-02	Buffalo	Truck/Bus	—	Open
Xml	226000028	Amended	2026-02-27	Buffalo	Fatal Truck/Bus	—	Open
Xml	226000029	Amended	2026-03-05	Buffalo	Truck/Bus	—	Open
Xml	226000031	Amended	2026-03-14	Buffalo	Truck/Bus	—	Open
Xml	226000033	Amended	2026-03-20	Buffalo	Truck/Bus	—	Open
Xml	226000042	New	2026-06-04	Colfax	Injury-A	—	Open
Xml	226000043	New	2026-06-07	Colfax	Injury-A	—	Open
Xml	226000044	New	2026-06-10	Colfax	Injury-A	—	Open
Xml	226000045	New	2026-06-13	Colfax	Injury-A	—	Open
Xml	226000046	New	2026-06-16	Colfax	Injury-A	—	Open
Xml	226000052	Driver	2025-11-22	Buffalo	Truck/Bus	—	Open
Xml	226000055	New	2026-07-21	Douglas	Fatal	—	Open
Xml	226000056	New	2026-07-24	Douglas	Fatal	—	Open
Xml	226000047	Amended	2026-06-19	Colfax	Injury-A	—	Open
Xml	226000069	New	2026-09-09	Lancaster	Fatal	—	Open
Xml	226000087	Amended	2026-02-23	Scotts Bluff	Fatal	—	Open
Xml	226000095	New	2026-03-30	Wayne	Fatal Injury-A	—	Open
Xml	226000096	New	2026-04-02	Wayne	Injury-A	—	Open
Xml	226000097	Driver	2025-12-10	Buffalo	Truck/Bus	—	Open

The Validation queue

4.1 What's in the queue

A report appears here once the AI pre-pass has finished with it, and leaves as soon as its validation is complete. Reports routed to management, withdrawn, or replaced by a later report are not in the queue.

The queue is ordered the way work should be done: **priority reports first** (fatal, serious injury, truck and bus, crashes involving state property - whatever your state has set up), then **oldest first**. A report that management has marked High comes before everything else; one marked Low goes after the priority reports.

The columns

Column	What it shows
Channel	How the report arrived: Xml, Ocr (scanned and read) or Manual (keyed from paper).
Case	The crash key. Click it to open the case in a new tab.
Work Type	Why it's here: New , Amended (a later version of a report already filed), Driver (a driver's own report), Manual or Scanned .
Crash Date	The date of the crash.
County	The county, as code and name.

Column	What it shows
Priority	Any priority classes the report belongs to, as yellow labels, and a management priority (High or Low) if set.
Assigned	Who holds the report. A padlock and red name means they have it open right now; a plain name means it's assigned to them but not open.
(last column)	Open - opens the report. A speech bubble means the case has messages with management; a number beside it is how many answers you haven't read.

Click any column heading to sort by it; click again to reverse. With no column chosen the queue is in working order (priority, then oldest).

4.2 Taking the next report

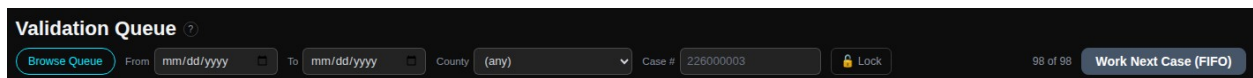
Work Next Case (FIFO) takes the report at the top of the queue in working order, assigns it to you and opens it. It skips any report someone else already holds. This is the normal way to work.

You can also pick a specific report with **Open**. Opening a report nobody holds assigns it to you. Opening one someone else holds shows it read-only (see the next chapter).

First in, first out: FIFO means you always get the oldest report of the highest priority. Priority always wins - FIFO never skips a priority report to give you an older ordinary one.

4.3 Filtering the list

The toolbar above the list narrows what you see:



The filter toolbar

- **From / To** - crash dates.
- **County** - one county.
- **Case #** - a crash key (or part of one).
- **Clear** - removes every filter.
- The count on the right - how many reports match out of how many are in the queue.

Filters only change the list you browse. **Work Next Case** always takes the top of the whole queue (within any county group you belong to - see below).

Locking your filter

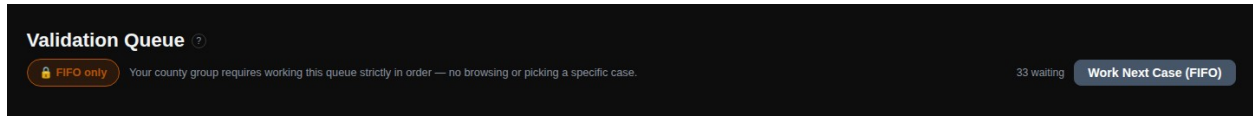
If a supervisor asks you to help with one county or a date range for a while, set the filter and click **Lock**. The button changes to **Locked** and your filter stays in place every time you come back to the queue - after each report you finish, and after signing out and in again - until you click it again to unlock.

4.4 County groups and FIFO-only

Your administrator can put you in a **county group** - a set of counties (and, optionally, days of the month - for example crashes on the 1st to the 15th, with another crew taking the rest) that is yours to work. If

you're in one, the queue shows only those reports, both in the list and for Work Next Case. If you're in no group, you see the whole queue.

A county group can also be **FIFO only**. Then you see no list at all - just how many reports are waiting and the **Work Next Case (FIFO)** button - so reports are worked strictly in order:



The queue for someone in a FIFO-only county group

Everyone's busy: If every report in the queue is held by someone else, Work Next Case says so instead of opening one.

5. Reviewing a report (Validation)

This is where the data lane's work is done: one pass through the report, in place, with the report image beside you. You check what the officer entered, decide on each AI suggestion, fix anything the state's rules object to, and mark validation complete.

The Validation screen

The screen has three parts:

- **The header** across the top - which report and case this is, its priority, and where it is in its journey.
- **The report image** on the left - the officer's own report, page by page.
- **The field list** on the right - every value in the record, with what the officer entered, what the AI suggests, and anything a rule says is wrong.

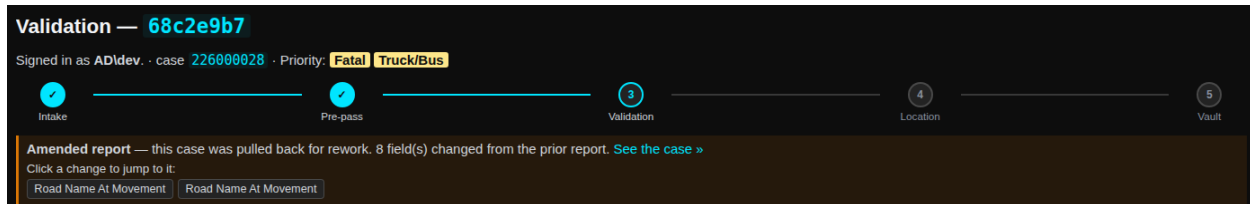
The buttons you finish with - **Mark validation complete**, **Unlock**, **Save progress**, **Route to management** - are along the bottom.

5.1 The header

- **Validation - xxxxxxxx** - the first eight characters of the report's own id.
- **case 226000017** - the crash key. Click it to open the case (a Back link brings you straight back).
- **Priority** - the report's priority classes as yellow labels, if any.
- **The journey bar** - Intake, Pre-pass, Validation, Location, Vault.

Amended reports

If this report is an amendment of one that was already worked, an amber box says so, with how many fields changed from the earlier report. Below it is a button for each changed field: click one to jump straight to it. Those fields also carry a **changed** mark in the list. You normally only need to check the changes.



An amended report: jump straight to what changed

5.2 The report image

The left pane shows the report the officer filed, rendered page by page. It is the official document and is never changed; anything you draw on it is kept separately, on top.

- **Report tabs** - if the case holds more than one report (an amendment, a second agency's report, a driver's report), there is a tab for each. Clicking another tab only changes the image you're looking at; the fields on the right are always the report you're reviewing. A line tells you when you're looking at a different report, with a link back.
- **open raw PDF** - the report PDF on its own, in a new browser tab.
- **Pop out** - moves the image into its own window, for a second monitor. It remembers where you put it and how big it was, and reopens there next time. Untick it to bring the image back into the page.
- **Show scene diagram** - on a report with a separate crash diagram, switches between the full report and the diagram.

The field highlight and the loupe

When you select a field on the right, the image scrolls to where that field is printed on the form and draws a bright box around it. At the highest magnify level a **loupe** - a magnified window in the corner - also shows that spot enlarged. Close the loupe with its × or press Escape.

Investigator Report — Sep 28, 2026 superseded Investigator Report — Sep 28, 2026 editing

open raw PDF Pop out

Annotate

Page 3

Check if diagram is submitted on a separate page.

SYNTHETIC TEST NARRATIVE - V1 REPORTED TRANSPORTATION
FABRICATED DATA GENERATED FOR UNIT PURPOSE

YEAR MAKE MODEL
FORD RANGER

VIN
1FTTJ06D1AU025081

Page 3

NOTIFY KEY NO. SYN-025 Investigator's Motor Vehicle Crash Report - Vehicle

VEHICLE NO. 1 MOTOR VEHICLE UNIT TYPE 01 - Other Vehicle in Transport 02 - Personal Motor Vehicle 03 - Working Vehicle/Equipment 04

VEHICLE OWNER NAME (Last, First, Middle) CONTACT PHONE 308-555-1025

SYNTHETIC FLEET LEASING

MAILING ADDRESS CITY DEMOPOLIS STATE MD ZIP 10001

VEHICLE PLATE NO. LICENSE PLATE TYPE STATE MD REG. YEAR 2023 MAKE FORD MODEL RANGER VIN 1FTTJ06D1AU025081

INSURANCE COVERAGE 01 - Yes 02 - No 03 - Unknown INSURANCE COMPANY SYNTHETIC MUTUAL INSURANCE POLICY NO. SYN-POL-25038A

MOTOR VEHICLE TYPE CATEGORY 01 - All Terrain Vehicle/Cycle (ATV/ATC) 02 - Off-Highway Vehicle 03 - On-Highway Vehicle 04 - Special Purpose Vehicle

SPECIAL FUNCTION OF MOTOR VEHICLE IN TRANSPORT 01 - No Special Function 02 - Special Function 03 - Special Function

EMERGENCY MOTOR VEHICLE USE 01 - Emergency Operation, Transporters Working Equipment in Use 02 - Emergency Operation, Transporters Working Equipment Not in Use 03

The selected field boxed on the report, with the loupe

Paper reports don't always scan straight. If the box lands a little off on a page, use **Line up this page** above the page to nudge the box into place; the Refinery remembers the correction for that page of that report.

Annotations

Annotate lets you draw a see-through box on the report and type a note in it - for example to point the Location team at a landmark the officer mentioned. Click Annotate, drag a box on the page, and type. Each person's notes have their own color.

- Annotations are drawn over the report, never on it; the official document is never changed.
- By default saved annotations are **permanent**. If your state allows it (a System Admin setting), you can edit, move, resize and delete them.
- You can change your own annotations and those of anyone below you in the chain of command (line staff, then supervisors, Local Admin, Manager, System Admin), never those of someone at or above your level.

5.3 The field list

Tabs for each part of the crash

Fields are split into tabs: **General / Case**, then one tab per vehicle (with how many occupants it had), non-motorists and so on. A number on a tab is how many fields in it need attention.

Needs attention, or everything

- **Show only needs attention** (the default) hides every field that is clean, so a well-filed electronic report is a quick confirm, not a march through a hundred fields.
- **Show all in this tab** shows every field in the tab. The counter beside the buttons says how many are shown in this tab and how many fields there are on this lane in total.
- A field **needs attention** when the AI's suggestion is below the confident level, when it carries a flag, when a rule problem points at it, or when it's required and blank. It shows a **needs attention** marker. The field you are on always stays visible, even if it's clean.

Pages and sections

- **Jump to: Pg 1, Pg 3...** - jumps both the list and the image to that page of the report.
- **Not on form** - fields the record carries that have no box on the printed form (for example a value the Refinery looked up). They're grouped at the end.
- **Switch to section view / form view** - form view (the default) lists fields in the order they're printed on the report, top to bottom, so you read down the form and the list together. Section view groups them by part of the record.
- A group collapses by itself once every field in it is clean.

Reading aids

Button	What it does
Night mode / Day mode	Dark or light screen. Your choice is remembered.
Reading guide: on/off	A band that follows the field you're on, dimming the rest, to keep your place.
Magnify: full	The selected field is shown large and the rest shrink to one line each; the image boxes the field and opens the loupe.
Magnify: highlight	Every field normal size; the image boxes the selected field and scrolls to it.
Magnify: scroll	The image scrolls to the selected field without a box.
Magnify: off	Nothing follows your selection; scroll the image yourself.
Scan: normal / inverted / boosted contrast / grayscale	Changes how the report image is drawn, to make a faint or dark scan easier to read. Applies to the image only.

Working from the keyboard

Click or tab to a field, then **Up / Down** (or **j / k**) move to the previous or next field, **Enter** edits the selected field, and **y** accepts the AI's suggestion for it.

5.4 A field, up close

One field: what the officer entered, the AI's suggestion, and the box you edit

- **The label**, with the page it's printed on (**pg 3**).
- **Officer entered** - what the report says, with its meaning for a coded value (**01 - Yes**). This never changes, even after you save a draft.
- **AI proposal** - what the AI suggests, with its **confidence** in a colored box (green when it's confident, yellow in between, red when it isn't sure - your System Admin sets where those lines are), and underneath, where the suggestion came from and why (for example: from the DMV registration for plate NE-SY0250).
- **use** - puts the AI's value in the box. It changes to **used** once you have.
- **OCR read** - on a scanned report, how confident the character reader was, and how it read the value.
- **The box** - the value that will be saved. It starts as the officer's value (or, for a trusted lookup, the looked-up value). A coded field is a drop-down list; type a number or the first letters of a label to jump to it.

Flags

A red flag line is a warning the AI or a check raised, for example a coded value that doesn't agree with the narrative. When a flag has no suggested value to use, click **acknowledge** once you've looked at it.

Rule problems

Every time you leave a field you changed, the Refinery checks the whole record against your state's rules and the national MMUCC rules. A broken rule appears on the field it's about, in plain words:

Rule problems (1) ?

Must fix Vehicle 1: Vehicle body type or HM placard requires a completed Heavy Truck/Bus supplement (Form 174). NE-174-1

▼ FORM 40 — PAGE 3

pg 3 **Vehicle Make** needs attention

Officer entered: FORD — FORD AI proposal: FORD — FORD use

[enrichment-vehicle] From DMV registration for plate NE-SY0250.

FORD

Model: RANGER — RANGER

▼ NOT ON THE FORM

Form174 Completed: false ↔ false

A rule problem on a field, with a link to the other field it involves

- **Must fix** (red) blocks completion. **Check** (amber) is a warning you may leave. **Waived** means a System Admin has waived that rule for this report.
- **Now:** shows the current values of the fields involved, decoded.
- A rule about two fields has a link (-> **Vehicle 1 Body Type**) to the other one. After you jump there, a **Back to...** link takes you back.
- A field on the Location lane is shown as **(Location lane)** - the Location team fixes it.
- The same list appears as **Rule problems (n)** at the top of the list. Click one to go to its field.

A value that can't possibly be right is caught the moment you leave the field: a date that doesn't exist or is in the future, a count that isn't a whole number, a distance that isn't a number, text far too long for the box. It shows as a **Must fix** on that field.

Clearance time 'not given': Electronic reports send 0001-01-01 when the officer didn't enter a roadway clearance time. The Refinery shows that as **not given** and an empty box.

Not on the form, and the Location lane's fields

Not on the form holds fields the record carries that have no printed box. **Location lane fields (read-only here)** shows the Location team's fields so you can see them; you can't change them here.

5.5 Saving and finishing

Save progress

Save progress saves what you've typed as a draft, without completing anything, so you can stop for lunch or the day and come back. The report stays assigned to you. Saving always keeps the officer's original values: the **Officer entered** line never changes to your draft.

Mark validation complete

When you're done, click **Mark validation complete**. The Refinery refuses, says why, and takes you to the first problem if:

- a **required** field is still blank;

- a value **can't be real** (see above);
- a **Must fix** rule problem is still there;
- a field still has an **unresolved AI flag** - a low-confidence suggestion or a flag you haven't used, changed or acknowledged;
- the report was **replaced or withdrawn** while you had it open.

When a completion is refused, everything you'd typed is saved as a draft, so nothing is lost. When it succeeds, the report is released so the Location team can take it, and you go back to the queue. If the Location lane is already complete, the report goes on to the Vault.

Completed means closed: A report whose validation is complete doesn't open in Validation any more. If it needs more work, management pulls it back (see Management).

5.6 Locks - who has the report

Opening a report that nobody holds assigns it to you. It stays yours - even if you close it, go home, or leave it for days - until you **unlock** it or a supervisor clears the claim.

- **Unlock** (at the bottom) gives the report up so someone else can take it, and returns you to the queue. **Save progress first** - Unlock does not save what you've typed.
- Anyone else who opens a report you hold sees a banner - **(lock) Your Name (your login) is working this record right now - saving is off until they're done** - and a read-only copy: every field is greyed out and Save and Complete are disabled. They can read it and reach you by your usual means (Teams, Webex, phone).
- **Work Next Case** never hands out a report someone else holds.
- If someone is away, a System Admin can clear their claim from the Doctor screen - on one report, or on every report nobody has had open for 8 hours (**Release idle claims**; a case sent back from management keeps its owner).

5.7 Route to management

1. Click **Route to management**. A messages box opens.
2. Write what's wrong and what you need, in plain words (up to 2,000 characters). A message is required.
3. Click **Send to management**. The report leaves your queue.

Page 24

Validation queue

Validation — 56af4c80

Signed in as ADIdev - case 226000099

Intake Pre-pass Validation Location

open raw PDF

General / Case Vehicle 1 (1 occupant) Vehicle 2 (1 occupant) Vehicle 3 (1 occupant)

Show only needs attention Show all in this tab (123)

3 of 123 shown in this tab - 411 total on this case

Jump to Pg 1 Pg 3 Pg 4 Pg 5 Pg 12

Section view Night mode Reading guide: off Magnify: full Scan: normal

2 of 2 Show all

Messages with management

FROM MANAGEMENT ADIdev 2026-09-28 19:17

Checked with the agency - it is one crash. Please finish it as one report.

Question or reply for management...

Send to management

TOYOTA

Model COROLLA COROLLA Model Year 2007 2008

LOCATION LANE FIELDS (READ-ONLY HERE)

Reviewer (ADireviewer) is working this record right now - saving is off until they're done.

Mark validation complete Save progress Messages (1 new) Route to management

The messages box

The conversation belongs to the **case**, not the report, so it follows the case through amendments and back and forth. **Show all** opens the whole conversation on one page.

6. Locating a crash (Location)

The Location lane places each crash on the map and ties it to the road network. It runs at the same time as Validation, worked by the Location team. A report isn't finished until both lanes are done.

6.1 The Location queue

Location Queue ?								
Browse Queue From mm/dd/yyyy To mm/dd/yyyy County (any) Case # 226000003 Lock 95 of 95 Work Next Case (FIFO) New Waiting for road snap Snapped								
Channel	Case	Work Type	Location	Crash Date	County	Priority	Validation lane	Assigned
Xml	226000007	New	PLACED BY TEAM - AWAITING SNAP — confirm	2026-02-04	Adams		in progress	— Confirm
Xml	226000017	New	K AVENUE	2026-04-01	Buffalo	Truck/Bus	in progress	ADIddev Map it
Xml	226000018	New	H AVENUE	2026-04-04	Buffalo	Truck/Bus	in progress	— Map it
Xml	226000024	Driver	UNIVERSITY DRIVE	2025-11-04	Buffalo	Truck/Bus	in progress	— Map it
Xml	226000030	Driver	EAST 17TH STREET	2026-03-02	Buffalo	Truck/Bus	in progress	— Map it
Xml	226000028	Amended	MACY LANE	2026-02-27	Buffalo	Fatal Truck/Bus	in progress	— Map it
Xml	226000029	Amended	WEST 29TH STREET	2026-03-05	Buffalo	Truck/Bus	in progress	— Map it
Xml	226000031	Amended	EAST 25TH STREET	2026-03-14	Buffalo	Truck/Bus	in progress	— Map it
Xml	226000033	Amended	M AVENUE	2026-03-20	Buffalo	Truck/Bus	in progress	— Map it
Xml	226000042	New	ROAD V	2026-06-04	Colfax	Injury-A	in progress	— Map it
Xml	226000043	New	ROAD 11	2026-06-07	Colfax	Injury-A	in progress	— Map it
Xml	226000044	New	ROAD 13	2026-06-10	Colfax	Injury-A	in progress	— Map it
Xml	226000045	New	ROAD 12	2026-06-13	Colfax	Injury-A	in progress	— Map it
Xml	226000046	New	ROAD X	2026-06-16	Colfax	Injury-A	in progress	— Map it
Xml	226000052	Driver	EAST 33RD STREET	2025-11-22	Buffalo	Truck/Bus	in progress	— Map it
Xml	226000055	New	NORTH FREEWAY E	2026-07-21	Douglas	Fatal	in progress	— Map it
Xml	226000056	New	CORBY ST	2026-07-24	Douglas	Fatal	in progress	— Map it
Xml	226000047	Amended	ROAD 10	2026-06-19	Colfax	Injury-A	in progress	— Map it
Xml	226000069	New	A ST	2026-09-09	Lancaster	Fatal	in progress	— Map it
Xml	226000087	Amended	3RD AVENUE	2026-02-23	Scotts Bluff	Fatal	in progress	— Map it
Xml	226000095	New	1309 E 7TH ST	2026-03-30	Wayne	Fatal Injury-A	in progress	— Map it

The Location queue

The Location queue works exactly like the Validation queue (see that chapter): the same columns, the same filters and filter **Lock**, **Work Next Case (FIFO)**, county groups and FIFO-only groups, and a speech bubble for messages from management. It holds every report whose location work isn't finished yet.

Two things are special to this queue:

- **Queued for snapping** - reports someone placed while the road-network service wasn't answering. The Refinery retries them on its own; Work Next Case passes over them until they're ready, and they show **Snap ready** once the road network has answered.
- A report can be here and in the Validation queue at the same time - the two lanes are independent.

6.2 The Location screen

Location — 63f0aa46 case 226000007

Intake Pre-pass Validation Location Vault

Snap ready — completed automatically on 09/28/2026 19:05. Review below and complete the lane.

open raw PDF

Pop out

Annotate

Page 1

State of Nebraska
Investigator's Motor Vehicle Crash Report

SYNOPSIS

TOTAL NO. OF VEHICLES: 3

DATE OF CRASH: 09/28/2026

TIME OF CRASH: 19:05

PLACE OF CRASH: ADAMS

ROAD ON WHICH CRASH OCCURRED: EAST 9TH STREET

DISTANCE FROM MILEPOST: 1.00

NAME OF INTERSECTING ROADWAY: 160

IF CRASH WAS OUTSIDE CITY LIMITS, INDICATE DISTANCE FROM CITY LIMITS (MILES):

Resolution method: NearestReferenceFeature

Route:

Reference post:

Snap distance (ft):

Location description: PLACED BY TEAM - AWAITING SNAP

MIRE ELEMENTS

SegmentIdentifier: -

RouteNumber: -

RouteStreetName: East 9th Street

FederalAidRouteType: -

RuralUrbanDesignation: true

SurfaceType: -

BeginPointDescriptor: -

EndPointDescriptor: -

SegmentLengthMiles: -

DirectionOfInventory: -

Complete Location Lane

Unlock Save progress

Record isn't Vault-ready until validation completes too.

reason / note Route to management Messages

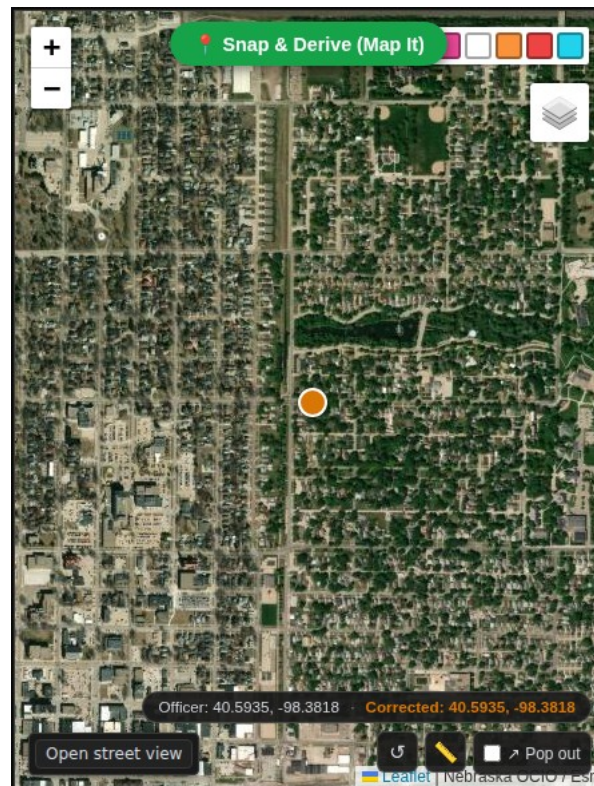
The Location screen: the report, the map, and the location fields

Three columns:

- **The report** on the left - the same image pane as Validation, with report tabs, open raw PDF, Pop out and Annotate (see the Validation chapter).
- **The map** in the middle.
- **The location fields** on the right, with the finishing buttons below them.

The header shows **Location - xxxxxxxx**, the case, and the journey bar. The reading aids - Night mode, Reading guide, Magnify and Scan - and the keyboard (Up/Down or j/k, Enter, y) work as they do in Validation.

6.3 The map



The map, with the officer's point and the corrected point

- **The officer's point** - where the officer's report put the crash.
- **The corrected point** (amber) - where you say it is. It starts on the officer's point. **Drag it**, or **click the map** to put it somewhere else.
- The bar at the bottom shows both: **Officer: lat, long - Corrected: lat, long**, and a measured distance if you took one.
- **(counter-clockwise arrow) Use officer's point** - puts the corrected point back on the officer's point.
- **(ruler) Measure distance** - click a reference point, then click again: the distance in feet is shown, and the second click places the corrected point. Useful when the report says, for example, 300 feet east of an intersection. **Cancel** stops measuring.
- **Pop out** - moves the map into its own window (for a second monitor); it remembers its place and size. If your browser blocks it, an **Open map** button appears - allow pop-ups for the Refinery once.
- **Open street view** - opens a street-level view of the corrected point in a new tab (where your state has set one up).
- **Layers** (the stack icon, top right) - the aerial or base map, an online alternate, and outlines for **county boundaries**, **city/village boundaries** and **road centerlines**. The colored squares above it change the color of the road lines, to stand out against the map.
- **+ / -** - zoom; you can also scroll to zoom and drag to pan.

Where the spot is: The crash point is the **first harmful event** - where the first injury or damage happened - not where the vehicles came to rest. The officer's latitude and longitude are a starting

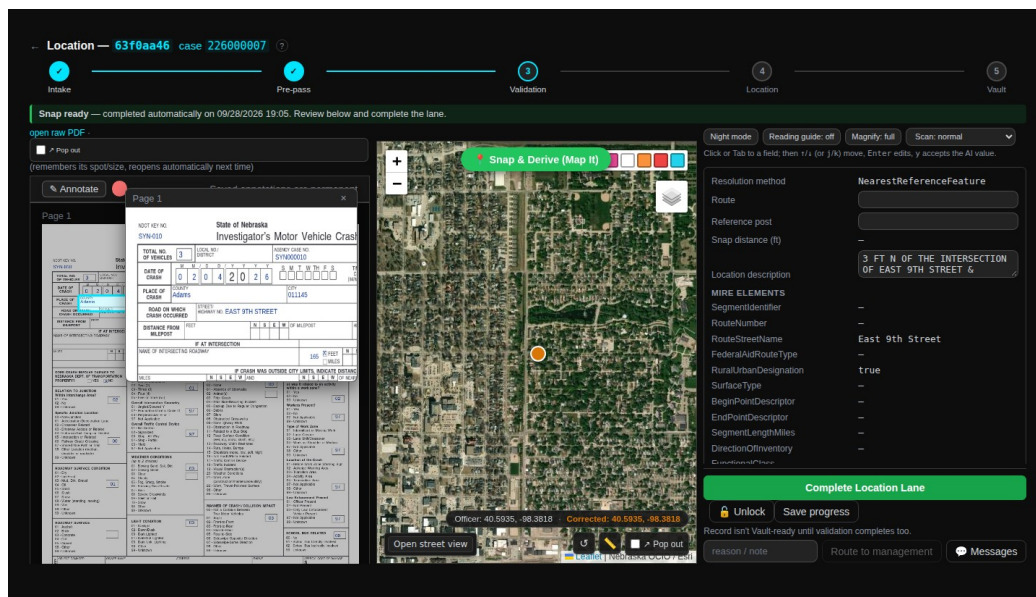
reference only. When the report gives several ways to locate it, prefer, in order: a specific point, a distance from a point, a distance from a milepost, a distance from a city.

6.4 Snap & Derive (Map It)

When the corrected point is right, click **Snap & Derive (Map It)** at the top of the map. The Refinery sends the point to your state's road-network service, which:

- **snaps** the point to the nearest road,
- returns the **route** and **reference post** (milepost) at that spot,
- and returns the road's **MIRE** attributes (Model Inventory of Roadway Elements - the road's own characteristics, such as lanes and surface).

The result appears at the top of the fields column:



A snap result

Item	Meaning
Resolution method	How the location was worked out.
Route, Reference post	Filled from the road network; you can correct them.
Snap distance (ft)	How far the point moved to reach the road. A large distance is worth a second look.
Location description	A plain description of the spot; you can edit it.
MIRE elements	The road's attributes at that point, read-only.

If you move the point after snapping, snap again - **Complete Location Lane** won't accept a point that moved since the last snap.

When the road-network service doesn't answer

The result says **Not auto-resolved** with the reason. You can enter the route and reference post by hand, or click **queue for snapping**: the report is set aside, the Refinery keeps retrying on its own, and it comes back to the queue marked **Snap ready**.

6.5 The location fields

Below the snap result are the report's location fields, grouped by section (for example **Spatial & roadway context**): county, city, street or highway, distances from an intersection or milepost, whether it happened on private property, and so on. Each works like a field in Validation: what the officer entered, any AI suggestion with **use**, flags with **acknowledge**, rule problems with links, a drop-down for coded fields.

- A county or city chosen from the list shows as code and name (**10 - Buffalo**).
- Distances must be numbers of 0 or more; a Yes/No field takes **Y** or **N**.
- A rule problem that involves a Validation field says (**Validation lane**) - the reviewer fixes that side.

6.6 Finishing

- **Save progress** - saves the point, the snap result and the fields as a draft; the report stays yours.
- **Complete Location Lane** - finishes the lane. It needs a snap result (or a hand-entered route), a point that hasn't moved since the snap, every required location field filled, and no **Must fix** rule problem on a location field. When refused, what you'd done is kept as a draft and the reason is shown.
- The line under the buttons tells you what else the report needs - for example **Record isn't Vault-ready until validation completes too**.
- **Unlock, Route to management** (type a reason, then the button) and **Messages** work as in Validation.

Completed means closed: A completed Location lane doesn't open again from the queue. If a location needs correcting later, management pulls the report back.

7. Manual entry - keying a paper report

Some reports arrive on paper and are never read by a machine. They are scanned to PDF, and a transcriber keys them into the Refinery with the scan beside them. Open **Manual entry** in the top bar (it needs the Transcribe permission).

7.1 The Manual entry queue

Received	File	Size	Status	
09/28/2026 18:58	form40a-synthetic.pdf	270 KB	New	Open
09/28/2026 18:59	form40-synthetic.pdf	363 KB	New	Open
09/28/2026 19:00	form40-packet-synthetic.pdf	1771 KB	New	Open
09/28/2026 19:01	form40-occupant-grid-synthetic.pdf	465 KB	New	Open
09/28/2026 19:02	form179-synthetic.pdf	157 KB	New	Open
09/28/2026 19:03	form178-synthetic.pdf	233 KB	New	Open
09/28/2026 19:04	form174-synthetic.pdf	212 KB	New	Open
09/28/2026 19:05	dr41-synthetic.pdf	500 KB	New	Open

The Manual entry queue

Every scanned report waiting to be keyed is listed here, oldest first. Scans reach the queue two ways: a scanner saves PDFs into a folder the Refinery watches (checked on the same timer as electronic reports), or someone adds them here by hand.

- **Received from / To** and **File** narrow the list by the date the scan arrived and by file name. **Clear** removes the filters.
- **New** - a scan nobody has started. A scan someone has open shows who.
- **Open** -> opens the scan to set it up.
- **Work Next Case (FIFO)** takes the oldest scan nobody else has open.

Adding a scanned report by hand

1. Click **Add a scanned report**.
2. Pick the PDF. If one report was scanned as several PDFs, pick them all - they're combined into one, in the order you picked them.
3. It appears in the queue as **New**. The exact same PDF can't be added twice.

PDF only: The queue takes PDF files. Photos of a crash scene are filed with a case separately (see Cases).

7.2 Setting up the report

Opening a scan shows it on the left and a short set of questions on the right. The answers decide the **shape** of the record - how many vehicles, people and so on - so the right fields exist to key into.

Setting up a scanned report

Question	What to answer
Report type	An officer's report or a driver's own report. Look at the paper in front of you: a driver's report is kept internal and never goes to the Public DB. Nothing is pre-selected, on purpose. (Hidden if your state doesn't take driver reports.)
Vehicles	How many vehicles are on the report. For each: how many occupants besides the driver , whether it's a Heavy truck/bus (adds the truck supplement), and whether it was Parked (no driver) .
Non-motorists	Pedestrians, cyclists and others not in a vehicle.
Property damage	How many property-damage items.
Fatality	Tick Any fatality? if anyone died.

1. Answer the questions from the paper.
2. Click **Set up this report**. The Refinery builds a blank record of that shape and opens it on the Validation screen, with the scan as the report image.
3. If the scan isn't a crash report at all (a blank page, a duplicate), click **Remove** instead and confirm; it leaves the queue for good. **Keep** leaves it where it is.

A scan that has already been set up shows **Open its transcription** -> instead, which takes you to the record.

7.3 Keying the report

A manual-entry record opens on the same Validation screen as any other report (see Reviewing a report), with a few differences:

- There is no **Officer entered** line and no AI suggestion - what you type **is** the record.
- Every field starts blank except the ones the setup filled in.
- Rule problems, required fields, impossible values, Save progress, Mark validation complete, locks and Route to management all work the same way.

Is it a crash we already have?

A paper report may be a second copy, or a later version, of a crash that's already on file. Before keying it all, check:

Checking a manual entry for an existing case

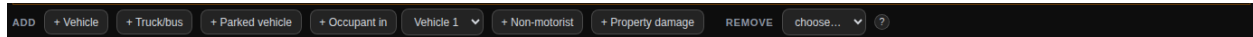
1. Type the **county code**, the **crash date/time** and a **party's last name** in the three boxes at the top.
2. Click **Check for a possible match**. It looks for a case in that county, within a day of the crash, that shares a driver, owner, occupant or non-motorist last name.
3. If it finds one, check it with **View case**. If it's the same crash, click **This is the same crash - pull its data**.

Pulling fills every field with that case's current data and files this report into the case. A blue banner then says **Pulled from case ...**, and each field shows the pulled value with an **Agree** button. Compare each against the paper: click **Agree** if it's right, or change it. **Mark validation complete** won't go through until every field has been agreed with or edited - the point is to check the paper, not to copy the old report.

The three boxes are only for this check. The real county and date are keyed in their own fields.

Missed a vehicle?

If the setup answers were wrong, fix the shape without starting over, using the **Add** and **Remove** bar:



Adding or removing an item

- **+ Vehicle, + Truck/bus, + Parked vehicle, + Occupant in** (choose which vehicle), **+ Non-motorist, + Property damage**.
- **Remove** - pick the item, then click **Remove** Whatever was typed into it is deleted.
- What you've typed so far is saved first, then the record is reshaped.

8. Intake matching

When a new report looks like it might be about a crash already on file, but the Refinery can't be sure, it holds the report here for a person to decide. Held reports have no crash key yet and aren't in any work queue. Open **Intake matching** from Home (it needs the Reconcile intake permission).

Why a report is held: It shares the county, a crash date within one day, and a last name (spelled the same or sounding alike) with a case already on file - but not the agency case number (which would make it an amendment) or, for a driver's report, the driver's licence number (which files it automatically).

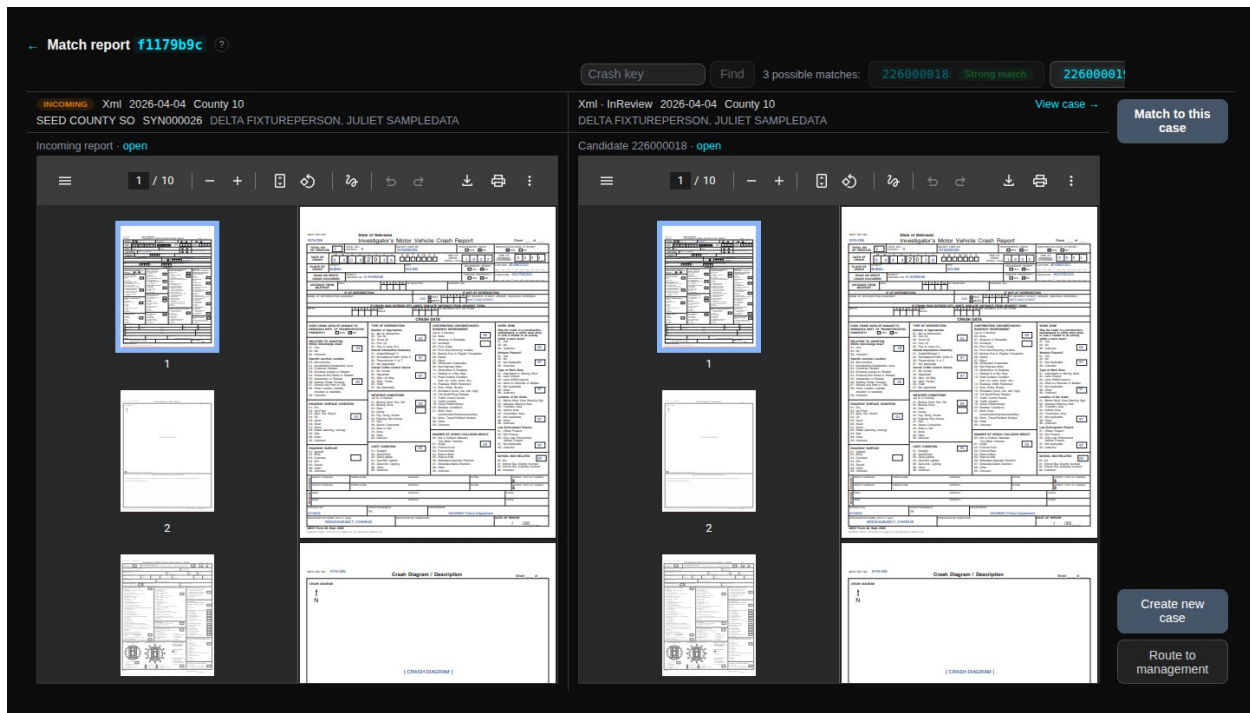
8.1 The list

Intake matching [?]						
Report	Channel	Crash date	County	Parties	Possible matches	
f1179b9c	Xml	2026-04-04	10	DELTA FIXTUREPERSON, JULIET SAMPLEDATA	3	Open →
1d563fd7	Xml	2026-03-09	10	HOTEL PLACEHOLDER, TANGO PLACEHOLDER	1	Open →
cbcaf997	Xml	2026-03-24	10	SIERRA SAMPLEDATA, FOXTROT STAGEDPARTY	1	Open →
40954b99	Xml	2026-03-31	90	PAPA SYNTHRECORD, BRAVO SCRATCHUSER, MIKE STAGEDPARTY, NOVEMBER SYNTHRECORD	1	Open →

Reports waiting for a match decision

Column	What it shows
Report	The held report's own id.
Channel	How it arrived (Xml, Ocr, Manual).
Crash date, County	From the report.
Parties	The names on the report.
Possible matches	The crash keys of the cases it might belong to.
Open ->	Opens the report to decide.

8.2 Deciding



Comparing a held report (left) with a possible match (right)

The screen puts the two reports side by side:

- **Left - INCOMING:** the held report, with its channel, crash date, county, agency, agency case number and names, and its PDF below.
- **Right - the candidate:** the case you're comparing it with, the same details and its PDF. **View case** -> opens the whole case.
- **The possible matches** are chips across the top. **Strong match** means the name matched exactly; the others matched by sound. Click a chip to compare with that case.
- **Crash key** box and **Find** - load any case by its crash key to compare with, when you know the right case but it wasn't suggested.

Read both reports and decide:

Button	When	What happens
Match to this case	It's the same crash.	The report is filed into that case and enters the queues. If the case's current report hasn't been worked yet, this one takes its place (the old one is kept in the case). If it has, this one becomes an amendment and the reviewer sees what changed. A driver's report filed with a police report is kept beside it as a companion; the police report stays primary.
Create new case	It's a different crash.	A new case and crash key are made and the report enters the queues.
Route to management	You can't tell, or something's wrong.	It goes to the Management queue with your message, still without a case.

If the report was already decided by someone else while you had it open, the screen says so and shows the crash key it went to.

9. AI pre-pass failures

Once in a while the AI helper can't finish with a report - its answer was cut off, it ran out of time, or the model file isn't there. Such a report is kept out of the Validation and Location queues and listed here instead, so a reviewer never opens a report that has no suggestions without knowing why. The list is on the System Admin dashboard's tabs, under **AI failures** (it needs the Reconcile AI failures permission).

9.1 The list

The screenshot displays the 'AI pre-pass failures' section of the System Admin dashboard. At the top, there are navigation tabs: Operations, Data Rules, Forms & Integration, Access & Workflows, and System & Maintenance. Below these are sub-tabs: Dashboard, Metrics, Intake, AI Failures (1), Sent to Admin (1), Waived Reports, Records, Doctor, and Learning. The 'AI Failures' tab is active, showing a summary bar with 'Waiting: 1 report', 'Most common: AI answer unreadable', and 'Retry unavailable - no local model file'. Below the summary is a table with the following data:

Report	Case	Channel	Failed	What went wrong
47816fba	226080023	Xml	2026-09-28 19:04	AI answer unreadable Failed to parse the model's JSON response - it may have been truncated by MaxTokens before completing.

At the bottom right of the table, there is a 'Triage --' link.

AI pre-pass failures

- **Report**, **Case**, **Channel** and **Failed** (when) for each report, and **What went wrong** in plain words.
- **Triage** -> opens one report.
- **Retry all** runs the pre-pass again for every report in the list.
- **Send all to manual entry** sends every report on without AI (see below). It asks you to confirm first; **Cancel** stops.

If the Refinery has no AI model file on this server, the retry buttons read **Retry unavailable - no local model file** and can't be used.

9.2 One report

The screenshot shows the 'AI pre-pass failures Triage' interface for report 47816fba. The main view is a form titled 'State of Nebraska Investigator's Motor Vehicle Crash Report'. To the left of the form are three thumbnails of the report image, with the first one selected. To the right of the form, a 'What went wrong' section displays an error message: 'AI answer unreadable'. Below this, a 'Resolve' section offers two options: 'Retry AI pre-pass' (disabled) and 'Bypass AI & send to manual entry' (active).

Triage for one report

Button	What happens
Retry	Runs the AI pre-pass again. Most failures are temporary; if it works, the report goes into the queues with suggestions as normal.
Bypass AI & send to manual entry	Files the report's data (already read correctly from the report) as a manual-entry report in the same case, replacing the failed one. A person then checks every field against the image, with no AI suggestions. Use this when retrying keeps failing.

Nothing is lost: Either way the report's data and image stay with its case. The failed attempt is recorded in the report's activity log.

10. Cases

A case holds every report about one crash. **Cases** in the top bar lists them; each case has its own page showing everything that has happened to it. It needs the Review permission.

10.1 The case list

CRASH KEY	OPENED	AGENCY	CRASH DATE	REPORTS	AMENDMENTS	CURRENT REPORT
226000107	2026-09-28 19:05	XMLTraCS	2026-05-02	1	—	In review
226000106	2026-09-28 19:05	XMLTraCS	2026-04-29	1	—	In review
226000105	2026-09-28 19:05	XMLTraCS	2026-04-26	1	—	In review
226000104	2026-09-28 19:05	XMLTraCS	2026-04-23	2	1	In review - amended
226000103	2026-09-28 19:05	XMLTraCS	2026-04-20	1	—	In review
226000102	2026-09-28 19:05	XMLTraCS	2026-04-17	2	—	In review
226000101	2026-09-28 19:05	XMLTraCS	2026-04-14	1	—	In review
226000100	2026-09-28 19:05	XMLTraCS	2026-04-11	2	1	In review - amended
226000099	2026-09-28 19:05	XMLTraCS	2026-04-08	1	—	In review
226000098	2026-09-28 19:05	XMLTraCS	2026-04-05	1	—	In review
226000097	2026-09-28 19:05	DR-41	2025-12-10	1	—	In review
226000096	2026-09-28 19:05	XMLTraCS	2026-04-02	1	—	In review
226000095	2026-09-28 19:05	XMLTraCS	2026-03-30	1	—	In review
226000094	2026-09-28 19:05	XMLTraCS	2026-03-16	2	1	In review - amended
226000093	2026-09-28 19:05	XMLTraCS	2026-03-13	1	—	In review
226000092	2026-09-28 19:05	XMLTraCS	2026-03-10	1	—	In review
226000091	2026-09-28 19:05	XMLTraCS	2026-03-07	1	—	In review
226000090	2026-09-28 19:05	XMLTraCS	2026-03-04	2	1	In review - amended

The case list

The list always shows a date range - by default the last 30 days (your System Admin sets the length). With years of history it never loads everything at once.

- **Cases opened from ... to ...** - the range of dates the cases were opened. Type any range you like; if **from** is later than **to** the screen asks you to swap them.
- **All statuses / In Review / Approved / Amended / Dirty / Flagged** - narrows the list. Dirty / Flagged gathers everything that needs a look: waiting for the pre-pass, routed to management, or with no current report. A deleted report has its own **Deleted** label and isn't counted as flagged.
- **Export CSV** - downloads the list as it's shown.
- Click a column heading to sort. Click a row (or its >) to open the case.

Column	What it shows
Crash key	The case's number.
Opened	When the first report arrived.
Agency	The reporting agency.
Crash date	From the current report.
Reports, Amendments	How many reports the case holds, and how many are amendments.

Column	What it shows
Current report	The status of the case's primary report.

Deleted cases: A case whose reports were all deleted is hidden from everyone except a System Admin, who finds it under Records (see the Records chapter).

10.2 A case's page

← All cases

Case 226000107

Opened 2026-09-28 19:05 · 1 report(s) · current report Investigator Report — Sep 28, 2026

Priority High Low None (?)

Status (?)

Workflow	200 Ready for review
Work zone	600 Not a work-zone crash
SPD	650 SPD: not flagged
FARS	700 FARS: not fatal
First completed	—
Last completed	—
Last updated	2026-09-28 19:05
Reworked	0 time(s)
Report status	original

► Status timeline (5)

Reports in this case

Only the current report is worked in review; the earlier ones are kept here for comparison.

Report	Channel	Status	Role	Changes	Data lane	Location lane	Received	
Investigator Report — Sep 28, 2026	Xml	InReview	opened case (current)	—	—	—	2026-09-28 19:05	Open

Messages with management

No messages yet.

Activity log

Every attributed change across every report in the case, oldest first.

A case's page

The top line says when the case was opened, how many reports it holds and which is current. **All cases** goes back to the list; if you came from another screen (for example a report in Validation), a **Back** link returns you there.

Priority

High / Low / None - a management priority for this case, set by a manager. High puts the case's report at the very top of its queue; Low puts it after the priority reports. The [?] explains it.

Status

A case's status is tracked on four separate tracks at once, each with a number and a name:

Track	Example	What it follows
Workflow	220 Validated, awaiting location	Where the case is in the Refinery's own work.
Work zone	600 Not a work-zone crash	The work zone decision.
SPD	650 SPD: not flagged	Whether state property was damaged.
FARS	700 FARS: not fatal	The fatal-crash (FARS) work.

Below the tracks: **First completed**, **Last completed**, **Last updated**, how many times it was **Reworked**, and the **Report status** (original or amended). **Status timeline** opens every status change, with when it happened. The full list of codes is in the Reference chapter. These codes are what Legacy output sends to your state's older systems.

Reports in this case

Column	What it shows
Report	The report's kind and date received (for example Investigator Report - Sep 28, 2026).
Channel, Status	How it arrived and its status.
Role	opened case (current) , amendment (current) , superseded (replaced by a later report, kept here), or driver report (companion) (a driver's own report kept beside the police report).
Changes	For an amendment, how many fields changed.
Data lane, Location lane	A tick when that lane is complete.
Received	When it arrived.
Open	Opens the report in Validation (or read-only if it's closed).

If the current report is an amendment, **What the current amendment changed** lists each changed field with its old and new value.

Messages with management

The latest message in the case's conversation with management, with arrows to step back through older ones and **Show all** for the whole thread on one page.

Documents

Every document filed with the case - the report PDFs, later documents such as a lab report, and (for a System Admin) documents held while a case is deleted. A System Admin can upload a report PDF to a case that has none (for example a restored case) and can remove a document filed with the wrong case; a removed document is taken out of the imaging system too.

Crash-scene photos

Photos of the scene filed with the case: when each was received, **Open** to view it and **Download**. Where your state allows, you can add a photo here. Photos can also arrive through a watched folder whose file names start with the crash key.

Activity log

Every attributed change across every report in the case, oldest first: **When**, which **Report**, the **Actor** (a person, or system: for something the Refinery did itself), the **Action** and the **Detail**. Nothing is ever removed from it.

For administrators

- **Restore** - on a deleted report (see Records).
- **Push this case now** - sends the case to your state's older systems immediately instead of waiting for the next scheduled push (see Legacy output).

10.3 The approved (Vault) record

From a case you can open the report's **Approved record** - exactly what was filed in the Vault. Coded values show the label they had **when it was approved**, so a later change to a code list never rewrites history.

← Cases

Approved record 0832cc06

Approved 2026-09-28 19:04 by ADIapprover - channel Xml.
Coded values below show the labels as they read on the approval date — a lookup value edited or retired since then does not change what this finished record meant.

General

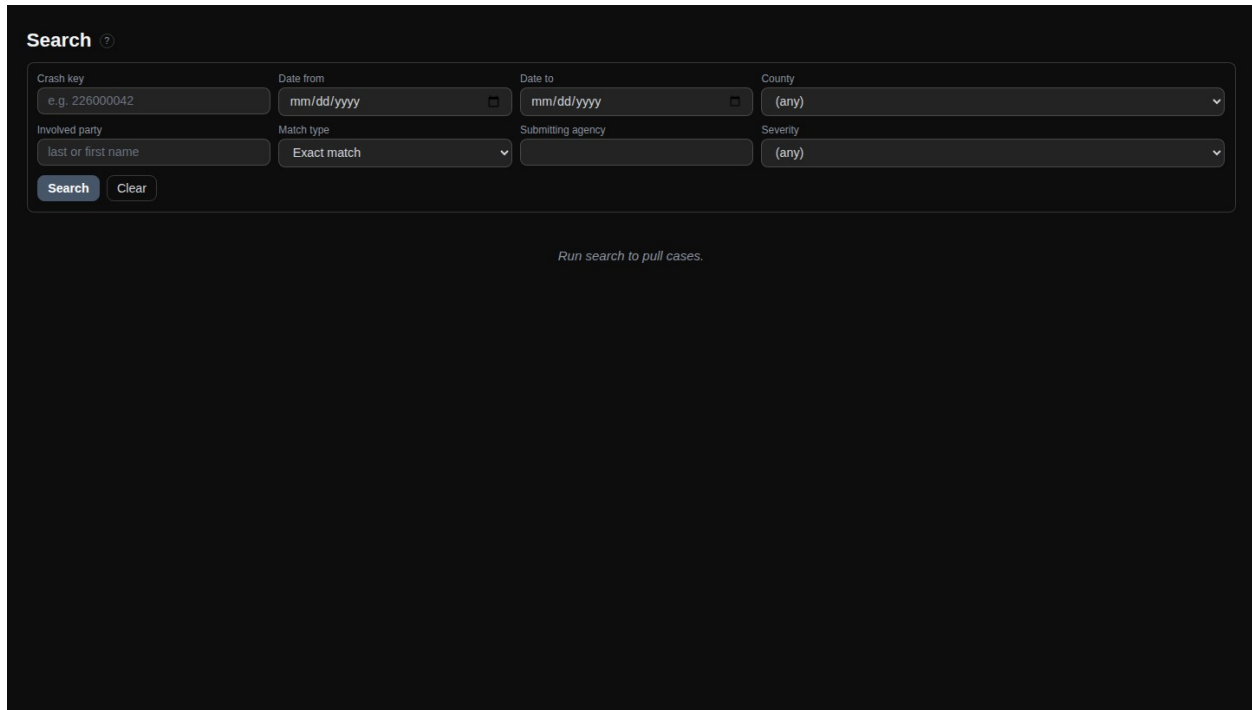
Field	Value	Label (as of approval)
Agency Case Number general.agencyCaseNumber	SYN000024	—
Agency Id general.agencyId	NB0100100	—
Crash Date Time general.crashDateTime	2026-03-29T16:48:00	—
Crash Day general.crashDay	SUNDAY	—
Crash Report Type general.crashReportType	2	—
Local Id Or District general.localIdOrDistrict	9	—
Number Of Fatalities general.numberOfFatalities	0	—
Number Of Motorists general.numberOfMotorists	2	—
Number Of Non Fatally Injured general.numberOfNonFatallyInjured	0	—
Number Of Non Motorists general.numberOfNonMotorists	0	—
Report Status general.reportStatus	2	—
Submitting Agency general.submittingAgency	ICR	—

An approved record

11. Search - finding a report for a customer

Search is for front-desk and customer-service staff: someone asks for a copy of a crash report, and you find it and send it. It's read-only - nothing here changes a report. It needs the Search permission.

11.1 Searching



Search ?

Crash key: e.g. 226000042

Date from: mm/dd/yyyy

Date to: mm/dd/yyyy

County: (any)

Involved party: last or first name

Match type: Exact match

Submitting agency:

Severity: (any)

Search **Clear**

Run search to pull cases.

Search

Fill in at least one field, then click **Search**. **Clear** empties every field.

Field	How it matches
Crash key	The case number.
Date from / Date to	Crash dates. You get exactly the range you type. If you fill only one, the other is filled in with your state's search window (for example 30 days) at search time. If from is later than to, the screen asks you to swap them.
County	One county.
Involved party	A person's last or first name. Match type: Exact match finds that name exactly; Sounds like also finds names that sound the same (Smith, Smyth).
Submitting agency	The reporting agency (part of the name is enough).
Severity	The crash's severity.

Results show **Crash date**, **County**, **Crash key**, **Agency**, **Severity** and **Involved** for each case, and a **Photos** count where your state files crash-scene photos. **View case** opens the case's documents. A very broad search shows the first set of results and asks you to narrow it.

Driver reports: A driver's own report is confidential. Unless you've been given the View driver reports permission, a case that holds only a driver's report never appears in your results, and a driver's report never appears in a case's documents.

11.2 A case's documents

The screenshot displays the 'documents' view for Case 226000109. On the left, there is a sidebar with a list of documents, including a thumbnail labeled '1' and a document labeled '2'. The main area shows a large preview of a document, which appears to be a 'Motor Vehicle Crash Report'. To the right of the preview, there is a 'SEND TO EMAIL' panel. This panel has a table with columns: 'RECEIVED', 'CHANNEL', and 'SEND TO EMAIL'. The 'RECEIVED' column shows '2026-09-28 19:15', the 'CHANNEL' column shows 'Manual', and the 'SEND TO EMAIL' column shows 'customer@example.com' with a 'Send' button next to it.

A case's documents, ready to send

- Each document in the case: what it is, its **Channel** and when it was **Received**. Click one to view it.
- **Send to email** - type the customer's email address and click **Send**. The document currently shown is attached. The address must be one plain email address.
- **Back to search** returns to your results.

Email: Sending needs your state's mail server to be set up in the Refinery. If it isn't, the screen says so. A public demo never sends email.

12. Work zone review

When an officer marks a crash as having happened in a work zone, someone confirms it. Approved work-zone crashes are what your state's work-zone reporting reads. Open **Work zone** in the top bar (it needs the Review permission, and appears only if your state tracks work zones).

12.1 The list

Work-zone review ?

Need to be worked (1) Approved (1) Disapproved (1)

From mm/dd/yyyy To mm/dd/yyyy All time

CRASH DATE	COUNTY	CRASH KEY	STATUS
2026-03-23	Buffalo	226000014	Needs work Review ->

Work-zone review

- Three tabs: **Need to be worked**, **Approved** and **Disapproved**, each with its count.
- **From / To** narrow the Approved and Disapproved tabs by crash date; **All time** clears them. On the Disapproved tab you can also look one up by **Crash key**.
- Each row shows **Crash date**, **County**, **Crash key** and **Status**. **Review ->** opens it.
- A System Admin sees a link to **Admin -> Work zone**, the export settings.

12.2 Deciding

[Back to Work-zone review](#)

Work-zone review — 226000014

Officer's submitted report • [open diagram](#)

1 / 10 65% +





State of Nebraska
Investigator's Motor Vehicle Crash Report

REPORT NO. 226000014
CRASH DATE 03/23/2026
COUNTY Buffalo
CRASH KEY 226000014

CRASH DATE 2026-03-23
COUNTY Buffalo
CRASH KEY 226000014
STATUS Approved
WORK ZONE Needs to be worked

A work-zone decision

The report image fills most of the screen, with the crash key, date, county and current status beside it.

- **Approve work zone** (or press **A**) - it's a work-zone crash.
- **Disapprove** (or press **D**) - it isn't.
- A decision can be changed any time on the same screen - reviewers sometimes disapprove by accident.
- If someone else decided while you had it open, you're told who and asked to reload, instead of overwriting their decision.

Back to Work-zone review returns to the list. A System Admin chooses which fields go into the work-zone export file.

13. FARS - fatal crashes

NHTSA's Fatality Analysis Reporting System (FARS) counts every fatal crash in the country. A state's FARS analyst reports each one. The Refinery keeps the analyst's worklist: a fatal the analyst hears about before any report exists, the finished fatal crashes waiting to be matched to those, and what has been sent. Open **FARS** in the top bar (it needs the FARS permission).

FARS Manifest: If your state uses FARS Manifest - Bad Marine's separate tool for coding and sending FARS cases - your System Admin turns it on and the FARS link opens FARS Manifest directly. The Refinery's own FARS screen then shows only **FARS Manifest is the active path for this state** and an **Open FARS Manifest** button. FARS Manifest has its own manual. Everything below applies when your state works FARS inside the Refinery.

13.1 The FARS screen

FARS

New pre-report

FARS code: e.g. 20271 County: (unknown)

Crash date: mm/dd/yyyy Location type: (unknown)

Roadway: (unknown) Crash type: (unknown)

People: name, person type, restraint

+ Add person

Notes: source, phone/email tip, etc.

Log pre-report

Work queue — completed, fatal-coded cases

CRASH DATE	COUNTY	CRASH KEY	INVOLVED	POSSIBLE MATCH
2026-03-08	Buffalo	226000011	HOTEL PLACEHOLDER; TANGO PLACEHOLDER	b771943c Match / review

Pre-reports (4) Transmitted (1)

OPENED	FARS CODE	STATUS	CRASH KEY
2026-09-28 19:05 AD/farsanalyst	226000012	Matched	Mark transmitted
2026-09-28 19:05 AD/farsanalyst		Open	
2026-09-28 19:05 AD/farsanalyst		Open	
2026-09-28 19:05 AD/farsanalyst		Open	

The FARS screen

The left side is for logging a new pre-report; the right side holds the work queue and your pre-reports. **FARS search** (top right) is covered in section 13.6.

13.2 Logging a pre-report

Log a fatal as soon as you hear about it - a trooper's call, a coroner, the news - before any crash report exists. Everything is optional, but the more you enter, the better the Refinery can suggest the matching crash later.

- Fill in what you know on **New pre-report**:
 - FARS code** - your own FARS case number, if you assign one now (up to 20 characters).
 - County** and **Crash date**.

- **Location type, Roadway, Crash type** - from lists your System Admin manages.
- **People** - name, person type and restraint use. + **Add person** adds a row; **x** removes one.
- **Notes** - the source and anything else (who called, what they said).

2. Click **Log pre-report**. It appears in the Pre-reports tab as **Open**.

Required: A pre-report has to say something - at least a crash date, county, FARS code, crash type, person or note. An empty one is refused.

13.3 The work queue

Work queue - completed, fatal-coded cases lists crashes the Refinery has finished (or reached the point your System Admin chose) and coded as fatal, that no pre-report is matched to yet. A fatal that arrives before anyone logged it lands here, so nothing slips through.

- **Involved** - the people named on the report.
- **Possible match** - a green label means one of your open pre-reports lines up on county, crash date and a shared name.
- **Match / review** -> opens the match page.

13.4 Matching a fatal to its pre-report

Matching a fatal crash

- The report fills the left of the screen; the crash facts (date, county, people) are at the top right.
- **Match to a pre-report** - choose from the list; possible matches come first, and when exactly one matches it's already chosen. A green banner means it lines up on county, date and name. The detail card shows everything logged on that pre-report so you can read it beside the report.
- **Confirm match** binds them. The pre-report becomes **Matched** and shows the crash key.

Not a fatal

If the crash isn't a traffic fatality after all (a medical death, an unrelated cause), type the reason and mark it not a fatal. It leaves the work queue and moves to **Dismissed**. The page then shows **Marked not a fatal** with who, when and why, and an **Undo dismissal** button that puts it back in the work queue.

13.5 Pre-reports and Transmitted

Status	Meaning	Action
Open	Logged, not matched yet.	Wait for the crash, or match it from the work queue.
Matched	Bound to a crash case.	Mark transmitted once you've sent it to NHTSA.
Transmitted	Sent to NHTSA.	Listed on the Transmitted tab.

The **Transmitted** tab finds sent cases by FARS key or crash key, or by the date sent (**From / To**, **All time** clears the dates). **Dismissed** lists crashes marked not a fatal, with the reason and **Undo dismissal**.

Sending to NHTSA: The Refinery records that a case was transmitted; entering the case into NHTSA's own system is done there by hand, because NHTSA's system has no connection an outside tool can use.

13.6 FARS search and Send to management

FARS search finds any crash, fatal or not - for the 30-day rule, when someone injured in a crash dies within 30 days and the crash has to be recoded. It searches the same fields as the front-desk Search (crash key, date range, county, involved party exact or sounds-like, agency, severity). A driver-only case never appears.

1. Click **Send to management** on the crash's row.
2. If you know the exact new severity code, pick it; otherwise leave it on not sure and just describe the change.
3. Write what needs to change - for example: occupant 2 died at the hospital on 9/20. The note is required.
4. Click **Send**. The crash goes to the Management queue with your request; the row then shows it's already with management.

A manager reviews the request and, if approved, sends the report back to the Validation queue for a reviewer to make the change. Once it's recoded as fatal, it enters your work queue.

14. Management

Management is where cases go when staff can't finish them in the normal lanes: a report that covers two crashes, two reports that are the same crash, a duplicate, a severity change after someone died, a question for a manager. Open **Management** in the top bar (it needs the Manage escalations permission; the standard Management Resolver and System Admin roles have it, and an administrator can grant it to anyone else).

14.1 The management worklist

Management worklist ?

2 In management 1 On hold 1 With System Admin

Browse queue Work next case (FIFO)

Crash date from: mm/dd/yyyy To: mm/dd/yyyy 2 of 2

Record	Case	County	Crash date	Latest message	In management	Sent by	Assigned
20ac3131	226000008	Adams	2026-02-07	TO MANAGEMENT ADreviewer 2026-09-28 19:04 Looks like two crashes in one submission - please split.	3m	ADreviewer	— Resolve
56af4c80	226000009	Adams	2026-02-13	TO MANAGEMENT ADreviewer 2026-09-28 19:04 Possible duplicate of another agency's report.	3m	ADreviewer	— Resolve

Time in management ? Download CSV

Case	Queue	In management	On hold	Routed by	Reason
226000008	Management	3m	—	ADreviewer	Looks like two crashes in one submission - please split.
226000009	Management	3m	—	ADreviewer	Possible duplicate of another agency's report.
226000021	Hold	3m	3m	ADreviewer	Truck in this crash - waiting on the carrier's Form 174 supplement.
226000022	System Admin	3m	—	ADreviewer	Can't complete - the MMUCC6 check blocks it (stop sign + no controls).

The management worklist

- **In management** - the cases waiting for a decision. **On hold** - cases parked on purpose (see below). **With System Admin** - cases a manager has sent up.
- **Crash date from / to** narrows the list; **Clear** removes it.
- Each row shows the case, crash date, the **latest message** in the case's conversation, **how long** it has been in management, **Sent by** (who routed it here) and **Assigned** (the manager working it, or Unassigned).
- A **severity change** label marks a FARS request to recode a crash's severity.
- **Resolve** opens a case. **Work next case (FIFO)** takes the oldest case no other manager has taken.

A case routed here arrives **unassigned** - the person who sent it is recorded as **Sent by**, not given the case. A manager takes it with **Assign to me**. A staff reply to a case a manager already holds doesn't take it away from that manager.

Management has its own time-in-queue report (who's waiting, for how long), which can be downloaded as a spreadsheet.

14.2 Resolving a case

Management **Resolve** — 20ac3131 226000008 ?

Lanes

Validation open Work » Location open Work »

Rules blocking the Vault

0 blocking

Discussion

TO MANAGEMENT AD'reviewer 2026-09-28 19:04
Looks like two crashes in one submission - please split.

Answer ...

Answer and send back Answer and keep

Assignment & priority

Unassigned Assign to me Sent by AD'reviewer

Priority High Low **None** ?

Move to Hold

System Admin

What the System Admin needs to look at (required) Send to System Admin

Back to the workflow

Note to staff (optional) Return to workflow

Case resolution

Split Merge Delete Other

Reason (required)

Resolve case

Resolving a case

The page is in two halves: the report's state and its conversation on the left, what to do with it on the right. The header shows the case's crash key and any labels - **With the System Admin, On hold, Restored from delete**.

Lanes

Validation open / done and **Location open / done**, each with **Work >>**. A manager can work either lane directly on the normal screen - a quick fix and back, or the whole lane. A lane a manager completes stays complete.

Rules blocking the Vault

Every state rule and MMUCC rule the report fails right now, each marked **Must fix**. **0 blocking** means nothing stands between it and the Vault. A System Admin (if waivers are switched on) can click **Waive for this report**, give a reason, and let that one rule through for this one report. A waived rule shows as **Waived** with who, when and why, and **Remove waiver** undoes it.

Discussion

The case's whole conversation. Type an answer and choose:

- **Answer and send back** - your answer goes to the person who sent the case, and the case goes back to them, assigned to them.
- **Answer and keep** - your note is added, but the case stays in management (you're still working it, waiting on an agency, leaving a note for another manager).

Assignment & priority

- **Assign to me** - take the case. **Sent by** shows who routed it.
- **Priority: High / Low / None** - High puts the report at the top of its queue when it goes back; Low after the priority reports.
- **Move to Hold** - park the case in the On hold list (for example, waiting weeks for an agency's amended report). **Back to working list** brings it back. The hold list can be switched off by a System Admin.

System Admin

For something only a System Admin can do, write what they need to look at (required) and click **Send to System Admin**. It appears in their **Sent to Admin** list. The System Admin answers with an optional note and **Back to management**.

Back to the workflow, and the Vault

- **Return to workflow** - sends the report back to whichever lane is still open, with an optional note to staff.
- **Send to Vault** - when both lanes are done, runs the full final check (state rules and MMUCC, no bypass) and files it in the Vault. Disabled while a blocking rule remains; fix it or have it waived.

FARS severity change

A request from FARS to recode a crash's severity shows the requested code and the analyst's reason. **Approve - back to Validation to re-code** sends the report to the Validation queue for a reviewer to make the change (the manager doesn't edit it here). **Reject** needs a reason.

A restored case

A case a System Admin restored from the deleted file arrives here with an automatic message. Add notes as needed and click **Return to workflow**: it goes back in as a fresh report - its data as it was when deleted, the AI pre-pass run again, both lanes to do, unassigned, and out of the Vault until approved again. It keeps its crash key.

14.3 Case resolution

When the case needs a real decision, choose one, give the reason (required) and click **Resolve case**:

Choice	Use it when	What happens
Split	One report actually covers two or more crashes.	Opens the split screen (below).
Merge	This report and another case are the same crash.	Opens the merge screen (below).
Delete - Soft delete (recoverable)	It shouldn't be worked (a duplicate, not a reportable crash), but may be needed later.	Withdrawn and hidden from everyone but a System Admin, who can restore it. Tick the confirmation first.
Delete - Hard delete (permanent)	It must be gone.	Removed for good. Tick I understand this cannot be undone first. The audit trail of the delete stays.

Choice	Use it when	What happens
Other	Anything else - your decision is the reason.	The case goes back to whoever sent it with your reason.

Your state may not use soft delete at all (a System Admin setting); then only hard delete is offered.

14.4 Splitting a report into several crashes

Splitting a report

1. Choose how many crashes the report really covers (**Split into ...**).
2. For each item - each vehicle, person, non-motorist and property-damage item - choose which case it goes to.
3. Click **Next - Preview Split** and review what each resulting case will contain. **Edit assignments** goes back.
4. Execute the split. Each resulting case gets its own crash key (the first keeps the original), is reset for the AI pre-pass and rework in Validation, and is assigned back to whoever routed it here.

Fatal crashes: On a fatal crash, the driver avoidance-maneuver data carries to every resulting case.

14.5 Merging two cases

The screenshot shows the 'Merge' interface for case 226000008. The search bar at the top includes fields for 'Crash key' (e.g., 2260000042), 'Date from' (mm/dd/yyyy), 'Date to' (mm/dd/yyyy), 'County' (any), 'Involved party' (last or first name), 'Match' (Exact), and 'Agency'. Below the search bar, the 'PRIMARY (KEPT RECORD)' panel shows a list of cases, with the first case selected and its details displayed in a larger view. The 'CANDIDATE (MERGED & RETIRED)' panel is currently empty, showing a message: 'Select a candidate case above to enable side-by-side comparison.' At the bottom, there is a 'Compare fields' button.

Merging: search, pick a candidate, compare

1. The case you came from is the **PRIMARY (KEPT RECORD)**.
2. Search for the other case with the search fields (crash key, dates, county, involved party exact or sounds-like, agency, agency case number) and click **Search Candidates**.
3. Pick a candidate. **Compare fields** shows the two side by side.
4. Choose which of the candidate's items (vehicles, people, non-motorists) to bring into the primary. A plain duplicate can be left unticked - the Refinery never decides for you.
5. Click **Yes, merge this case**. The chosen items are added to the primary; the candidate is retired (**CANDIDATE (MERGED & RETIRED)**) - kept and visible in the case view, out of every queue and the Vault. The primary is reset for the AI pre-pass and rework in Validation, assigned back to whoever routed it here, where a reviewer reconciles the combined data.

15. Dashboards

Each level in the chain of command has its own dashboard. What you see on each depends on your role; a System Admin's dashboard is covered in the Administration part.

Dashboard	Who	Shows
My dashboard	Everyone who works reports	Your own edits and how often you accepted the AI's suggestion.
Data Supervisor	Data supervisors	Your own activity, your Validation team and its pace.
Location Supervisor	Location supervisors	Your own activity, your Location team and its pace.
Local Admin (and Manager)	Local Admins and Managers	Both lanes' teams, assigning staff to supervisors, and (Manager) giving the Local Admin role.

15.1 Choosing the dates

Data Supervisor dashboard			
From	09/18/2026	To	09/28/2026

The date range controls

- **From / To** - any range. It defaults to the last 10 days and remembers what you chose last time.
- **7 days, 30 days, YTD** (year to date) - quick ranges.
- **To Date** - today only; it switches the boxes off while ticked.

15.2 The activity table

Reviewer	Edits	Records touched	AI accept rate
AD\dev	8	8	0 %

An activity table

Column	Meaning
Reviewer	The person.
Records touched	How many reports they changed at least one field on.
Edits	How many field changes they made.
AI accept rate	Of the AI's suggestions they acted on, how many they accepted as proposed. A low rate isn't bad in itself - it can mean the AI is often wrong on that kind of field, which is exactly what the Learning screen uses.

Download CSV and **Download Excel** save the table as shown.

15.3 My dashboard

Your own work for the chosen dates: the activity table for just you. Use it to see your pace, or to answer "what did I work on last Tuesday".

15.4 The supervisor dashboards

Data Supervisor dashboard

From 09/18/2026 To 09/28/2026 7 days 30 days YTD To Date ?

Your own activity

A supervisor role can also work the queue directly — this is your own edits, separate from your team's below.

Download CSV Download Excel

Reviewer	Edits	Records touched	AI accept rate
AD\dev	8	8	0 %

Your team

- DataSupervisor (AD\datsupervisor)

Team velocity

5 report(s) worked in the selected range.

Download CSV Download Excel

Reviewer	Edits	Records touched	AI accept rate
AD\datsupervisor	5	5	0 %

Scheduled report

☒ Enabled Cadence: Monthly

Recipient emails:

Add recipient

Save

The Data Supervisor dashboard

- **Your own activity** - as on My dashboard.
- **Your team** - the staff assigned to you (a Local Admin or Manager assigns them).
- **Team velocity** - how many reports your team worked in the range, and the activity table for the team.

The Location Supervisor dashboard is the same for the Location team.

15.5 Local Admin and Manager

Local Admin dashboard

From 09/18/2026 To 09/28/2026 7 days 30 days YTD To Date ?

Your own activity

A Local Admin / Manager can also work the queue directly — this is your own edits, separate from the two lanes below.

Download CSV Download Excel

Reviewer	Edits	Records touched	AI accept rate
AD\dev	8	8	0 %

Location lane

Roster

- LocationSupervisor (AD\locationsupervisor) — supervisor Dev - full access Unassign
- Mapper (AD\mapper) — supervisor LocationSupervisor Unassign

Location team velocity

18 report(s) worked in the selected range.

Download CSV Download Excel

Reviewer	Edits	Records touched	AI accept rate
AD\mapper	14	14	64 %
AD\locationsupervisor	4	4	0 %

Data lane

Roster

- Approver (AD\approver) — supervisor DataSupervisor Unassign

The Local Admin dashboard

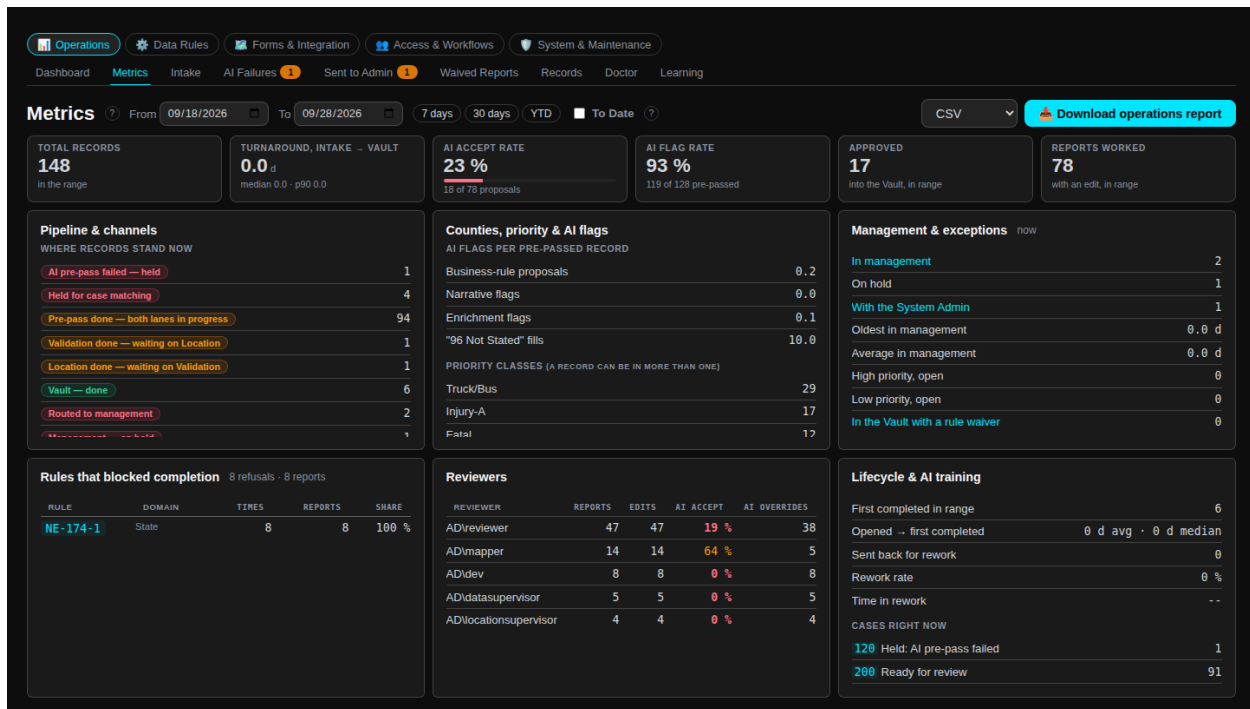
- **Your own activity**, then **Location lane** and **Data lane**, each with the whole team (every person and their supervisor), **Unassign** beside each, and the team's velocity.
- **Assign staff** - pick a **Staff** member, a **Supervisor** and a **Lane**, then **Assign**. The screen confirms who now reports to whom. Nobody can be their own supervisor.
- **Assign Local Admin role** (Managers only) - give or take away the Local Admin role. Only a System Admin can change their own access.
- The **management time-in-queue** report.

15.6 Scheduled reports

Each dashboard can email its report on a schedule. Under **Scheduled report**: choose **Daily**, **Weekly** or **Monthly**, add each recipient's email address (**Add recipient**, **Remove**), tick it on, and **Save**. Every address must be one plain email address. Sending needs your state's mail server set up in the Refinery.

16. Metrics and reports

Metrics shows how the whole operation is doing: volume, turnaround, how the AI is performing, where reports are stuck, and who's doing the work. Open it from **Metrics** in the top bar (it needs the Run reports permission).



Metrics

16.1 The range and the download

- From / To, 7 days, 30 days, YTD, To Date** - the same controls as the dashboards. Dates are your local dates.
- CSV / Markdown** and **Download operations report** - saves the whole report for the range.

16.2 The headline numbers

Tile	Meaning
Total records	Reports received in the range.
Turnaround, intake -> Vault	Days from arrival to the Vault, for reports approved in the range: average, median and the 90th percentile.
AI accept rate	Of the AI's proposals people acted on, the share accepted as proposed.
AI flag rate	Of the reports the AI pre-passed, how many it flagged something on.
Approved	Reports that reached the Vault in the range.
Reports worked	Reports with at least one person's edit in the range.

16.3 The panels

Pipeline & channels - where records stand now

Every report by stage right now: AI pre-pass failed, held for case matching, both lanes in progress, validation done and waiting on location, location done and waiting on validation, in the Vault, routed to management, on hold. Below it, volume **by channel** (electronic, scanned, manual).

Counties, priority & AI flags

How often the AI raised each kind of flag per report - business-rule proposals, narrative flags, lookup (enrichment) flags, 96 Not Stated fills; how many reports fell in each priority class; and volume by county. **Any county / Any class / Any channel** narrow it.

Management & exceptions

Cases in management, on hold, with the System Admin, the oldest and the average time in management, open High and Low priority cases, and reports in the Vault with a rule waiver. Blue items link to the list they count.

Rules that blocked completion

Which rules refused a completion most, how many times, on how many reports, and each one's share - the first place to look when reviewers keep hitting the same wall.

Reviewers

Each person's reports, edits, AI accept rate and AI overrides (suggestions they changed).

Lifecycle & AI training

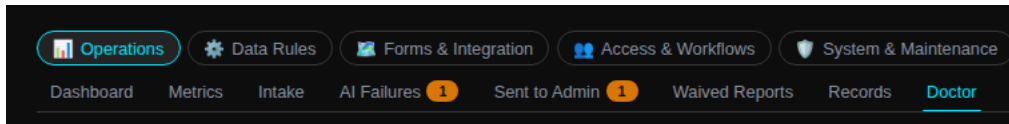
Cases first completed in the range, the time from opening to first completion, how often cases were sent back for rework and why, time in rework, and the cases right now by status code. **AI accept by field** shows, field by field, how often people accepted the AI's value - which fields the AI is good at, and which it isn't.

Scheduled delivery: The operations report can be emailed daily on a schedule (a System Admin setting); the dashboards have their own schedules.

17. Administration at a glance

Everything a state can tune without a software change is on the admin screens. They are reached from the **Admin** tile on Home or **System Admin** in the top bar. A System Admin sees every screen; anyone else sees only the screens their own admin permissions allow - a Manager given only Lookup values sees only that one.

17.1 The admin tabs



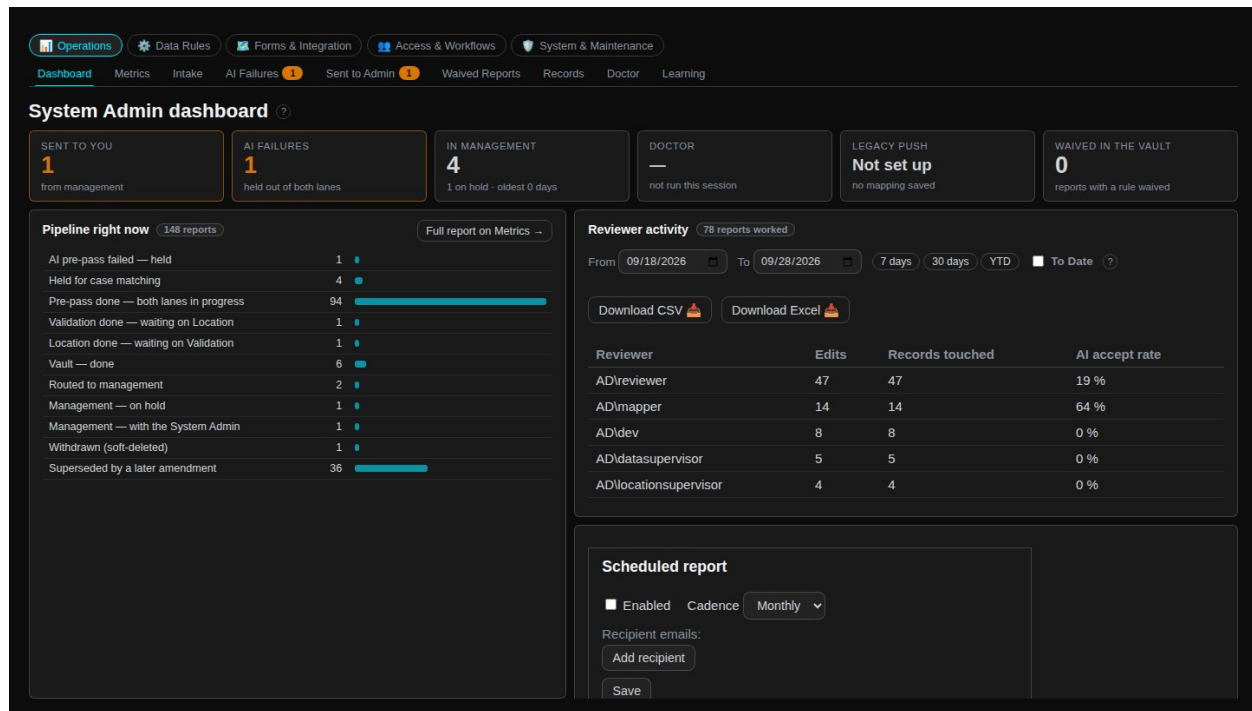
The admin tabs, grouped

The admin screens are grouped into five sets of tabs across the top of every admin page:

Group	Screens
Operations	Dashboard, Metrics, Intake, AI Failures, Sent to Admin, Waived Reports, Records, Doctor, Learning.
Data Rules	Field Definitions, Lookup Values, Business Rules, MMUCC6 Rules, Priority Classes.
Forms & Integration	Form Calibration, Schema Mapping, MMUCC6 Mapping, State-Unique Values, NHTSA Fields, Public DB Fields, Legacy Output.
Access & Workflows	Access Administration, County Groups.
System & Maintenance	System Settings, Work Zone Config, Public DB Purge.

A number on a tab is how many items are waiting there (AI failures, cases sent to you). **Public DB Purge** is marked red because it deletes. Tabs for things your state doesn't use are hidden (for example Public DB screens in a state with no Public DB, Work Zone Config when work zones aren't tracked).

17.2 The System Admin dashboard



The System Admin dashboard

- **Sent to you** - cases management has sent up for a System Admin.
- **AI failures, In management, Waived in the Vault** - counts, each linking to its list.
- **Pipeline right now** - every report by stage.
- **Legacy push** - when the last push to your state's older systems ran and how it went.
- **Doctor** - the health check's headline (see the Doctor chapter).
- **Reviewer activity** - who is working, for the chosen dates.
- **Full report on Metrics** -> for everything else.

17.3 Making changes safely

- **Changes take effect at once** for everyone, unless a screen says otherwise. Most screens have a **Save** button and nothing changes until you press it; a few (like Business Rules) have a draft you test before making it live.
- **History is safe.** Code lists and rules are versioned: a report approved last year still shows the labels and was judged by the rules in effect then.
- **Every change is recorded** with who made it and when.
- **Some choices are made only at installation** and can't be changed from any screen - whether your state has a Public DB, whether it takes driver reports, whether driver reports are confidential. Changing them is a deliberate reinstallation, never a switch.
- **The demonstration installation is never reset.** There is no "reset to blank" button anywhere; a new state gets a fresh installation.

18. Access - users, roles and county groups

Access Administration (Access & Workflows) is where people are given access. It needs the Administer permission.

Signing in and access are separate: Your state's sign-in (Active Directory) only proves who someone is - the identity itself grants nothing. Access is given here. Someone who signs in without a Refinery account sees "You don't have access to the Refinery. Ask your administrator."

The screenshot shows the 'Access administration' page with a 'Users' section. At the top, there are tabs for 'Operations', 'Data Rules', 'Forms & Integration', 'Access & Workflows' (selected), and 'System & Maintenance'. Below the tabs, there are links for 'Access Administration' and 'County Groups'. The 'Users' section includes a search bar with the placeholder 'Search by name...', a '+ Add User' button, and a table titled 'Import users from a file'.

NAME	AD IDENTITY	STATUS	ASSIGNED ROLES		
Administrator	AD\administrator	Active	Administrator	Edit Roles	Delete
Approver	AD\approver	Active	Approver	Edit Roles	Delete
DataSupervisor	AD\datasupervisor	Active	DataSupervisor	Edit Roles	Delete
Dev - full access	AD\dev	Active	Administrator	Edit Roles	Delete
Escalator	AD\escalator	Active	Escalator	Edit Roles	Delete
FarsAnalyst	AD\farsanalyst	Active	FarsAnalyst	Edit Roles	Delete
FrontDesk	AD\frontdesk	Active	FrontDesk	Edit Roles	Delete
LocalAdmin	AD\localadmin	Active	LocalAdmin	Edit Roles	Delete
LocationSupervisor	AD\locationsupervisor	Active	LocationSupervisor	Edit Roles	Delete
ManagementResolver	AD\managementresolver	Active	ManagementResolver	Edit Roles	Delete

Access Administration

18.1 Adding a user

The usual process: the person asks for access and signs your state's paperwork; you create their account, give them their roles, and tell them it's done.

1. Type their login in the first box. If your state's sign-in domain is set up, **first.last** is enough - the Refinery adds the domain (for example first.last@your-state.gov). A login that already names another domain is left as typed.
2. Type their display name - how their name will show on screens and in logs.
3. Click **+ Add User**.
4. Give them roles (below).

Logins are matched regardless of capital letters. Adding someone who already has an account says so and adds nothing.

Adding many users at once

At start-up, or when a batch of new staff starts, **Import users from a file** creates many basic accounts from a list - for example an export of an Active Directory group.

The screenshot shows the 'Access administration' page. At the top, there are tabs for 'Operations', 'Data Rules', 'Forms & Integration', 'Access & Workflows' (selected), and 'System & Maintenance'. Below these are sub-tabs for 'Access Administration' and 'County Groups'. The main heading is 'Access administration'. Underneath, there's a 'Users' section with a search bar and a '+ Add User' button. Below that is the 'Import users from a file' section, which has a toggle switch set to 'Off' and a button 'Turn on for one import'. A table lists existing users with columns for Name, AD Identity, Status, and Assigned Roles. Each row has 'Edit Roles' and 'Delete' buttons.

NAME	AD IDENTITY	STATUS	ASSIGNED ROLES
Administrator	AD\administrator	Active	Administrator
Approver	AD\approver	Active	Approver
DataSupervisor	AD\datasupervisor	Active	DataSupervisor
Dev - full access	AD\dev	Active	Administrator
Escalator	AD\escalator	Active	Escalator
FarsAnalyst	AD\farsanalyst	Active	FarsAnalyst
FrontDesk	AD\frontdesk	Active	FrontDesk
LocalAdmin	AD\localadmin	Active	LocalAdmin
LocationSupervisor	AD\locationsupervisor	Active	LocationSupervisor

Importing users from a file

1. Open **Import users from a file** and click **Turn on for one import**. It's off otherwise, so accounts can't be created in bulk by accident. It turns itself off again after one import, or an hour after being turned on if unused.
2. Choose the file: a CSV with one login per row, from a column named **UserPrincipalName**, **mail**, **email** or **login**, and a **Name** (or **DisplayName**) column if you have one. A plain list of logins with no heading works too. **Example CSV** downloads a sample.
3. Choose the **Role for everyone in this file** - Front Desk (the Search tile) by default, or **No role** so they start with nothing until you grant it. Remember Search shows the names of people in crashes.
4. Read the preview. Every row is **New**, **Already has an account** (left alone - an import never changes an existing account), or a **problem**: no login, not a login, a different domain, listed twice, more values than the header has columns (an unquoted comma in a name?), or possibly the same person as an existing DOMAIN\login account.
5. Click **Create N account(s)**. The screen confirms how many were created and that bulk import is off again.

A file is limited to 5,000 rows and 2 MB, and must be plain text (a spreadsheet saved as Excel is refused - save it as CSV).

18.2 The user list

- **Search by name** narrows the list.
- **Status** - the switch **pauses** someone: they keep their account, roles and history but can't do anything (for example on a long leave). Switch it back to restore them exactly as before.
- **Assigned roles** - each role as a label; **x** removes it.
- **Edit Roles** - a list of every role with a switch each.

- **Delete** - removes the account for good, with its roles and overrides (their work stays in the logs). You're asked to confirm. Prefer pausing for anyone who may come back.

Your own account: Only a System Admin can pause, delete or change the roles on their own account; for anyone else it shows **You** and those controls are off. The Refinery never lets the last person with full administrator access be paused, deleted or demoted.

On a brand-new installation with no administrator yet, this screen offers **Make me an administrator** for the first person to open it.

18.3 Roles and permissions

Roles & permissions shows each role's bundle of permissions. Pick a role on the left; its permissions are on the right, grouped into Queue actions, Dashboards & views, System admin and Other, each with a switch. A change applies at once to everyone who has that role.

The standard roles are described in the Welcome chapter, and every permission in the Reference chapter. You can change a standard role's bundle or add roles of your own.

18.4 Per-user overrides

Sometimes one person needs one extra permission (or must not have one their role gives) - for example a Manager allowed to edit lookup values, or a front-desk clerk cleared to see driver reports. Instead of a new role:

1. Choose the **User**, the **Permission**, and **Grant** or deny.
2. Click **Apply Override**.

The user's overrides are listed with who set them; **Remove Override** takes one away so the permission comes from their roles again.

18.5 County groups

County Groups (Access & Workflows) share out the queues: each group is a set of counties, and its people see only those counties' reports in Validation and Location. It needs the Manage county groups permission.

County groups

Active county groups 1

Search groups, counties or people... + New group

Group	Counties	People	Scope	
Central crew FIFO locked	Buffalo Adams	Reviewer	2 counties	Edit Delete

Central crew

FIFO lock ☒

Work days of the month any - any

Counties 2 Filter 94 counties... Select all Clear

Adams x Buffalo x

Unknown Adams Antelope Arthur Banner Blaine Boone
 Box Butte Boyd Brown Buffalo Burt Butler Cass Cedar
 Chase Cherry Cheyenne Clay Colfax Cuming Custer Dakota
 Dawes Dawson Deuel Dixon Dodge Douglas Dundy Fillmore
 Franklin Frontier Fumas Gage Garden Garfield Gosper Grant
 Greeley Hall Hamilton Harlan Hayes Hitchcock Holt Hooker
 Howard Jefferson Johnson Kearney Keith Keya Paha Kimball
 Knox Lancaster Lincoln Logan Loup Madison McPherson Merrick
 Morrill Nance Nemaha Nuckolls Otero Pawnee Perkins Phelps

People 1 Reviewer

☒ Reviewer AD\reviewer

Cancel Save county group

County groups

- **Active county groups** lists each **Group** with its **Counties**, **People** and **Scope**. **Edit** or **Delete** (with **Confirm delete**).
- **+ New group** or **Edit** opens the editor: a name, the **Counties** (with **Select all** / **Clear**), the **People** in it, and optionally **Work days of the month** - for example the 1st to the 15th, with another group taking the 16th to the end.
- **FIFO lock** - members can only take the next report in order (Work Next Case); they see no list to pick from.
- **Save county group**.

Someone in several groups sees all of their counties. Someone in no group sees the whole queue.

19. System Settings

System Settings (System & Maintenance) holds the switches and numbers that shape how the Refinery works for your state. It needs the Manage system settings permission. Change what you need, then click **Save All Settings** at the bottom; the button stays grey until something has changed. A number outside its allowed range is refused with a message and nothing is saved.

The screenshot shows the 'System Settings' page. At the top, there's a navigation bar with tabs: Operations, Data Rules, Forms & Integration, Access & Workflows, and System & Maintenance (selected). Below this, there's a sub-navigation bar with 'System Settings' (selected), 'Work Zone Config', and 'Public DB Purge'. The main content area is titled 'System Settings' and is divided into two columns. The left column is 'WORKFLOW & RECORDS' and the right is 'DATA, DOCUMENTS & INTEGRATIONS'. The left column has two sections: 'Routing & Search Boundaries' (with a 'FARS' sub-section) and 'Management'. The right column has three sections: 'Worker Infrastructure & Performance', 'Data Conventions & Entry Defaults', and 'Imaging System & Documents'. At the bottom, there's a status bar showing 'All system settings up to date' and two buttons: 'Discard Changes' and 'Save All Settings'.

System Settings

19.1 Routing & search boundaries

Setting	What it does
Handle FARS externally	On: FARS work is done in FARS Manifest. The Refinery's own FARS screen goes quiet and the FARS links open FARS Manifest.
FARS Manifest address	Where the FARS links go (a full http:// or https:// address).
FARS Manifest may view driver reports	On (the default): FARS Manifest can open a case's driver reports; every opening is recorded against the analyst. Off: they're listed as restricted.
FARS alcohol and drug mapping	Opens the screen that maps FARS alcohol and drug test codes to your state's codes (see Other admin screens).
Route to FARS when	When a fatal crash enters the FARS work queue: At first received, At completion of validation, or At final complete (both lanes).
Max search date range	The default window (in days) Search and Cases open with, and fill in when only one date is given. 1 to 3650.

19.2 Management

Setting	What it does
Hold queue	On: managers can move cases to an On hold list.
Management priority (High / Low)	On: managers can mark a case High or Low priority.
System Admin rule waiver	On: a System Admin can waive one blocking rule for one report in management.

19.3 Work zone & SPD tracking

Setting	What it does
Track work zones	Off: the Work zone screen, link and settings disappear and cases read 605 Work zone not tracked.
Route to Work Zone when	When a work-zone crash reaches the Work zone list: at first received, at completion of validation, or at final complete.
Track state property damage	SPD - crashes that damaged state-owned property. Off: no SPD flag from the pre-pass, no SPD priority class, cases read 645 SPD: not tracked.
Hand off SPD when	When an SPD case is handed off: first received, validation complete, or final complete.

19.4 Notes & annotations

Setting	What it does
Notes can be edited and deleted	Off (the default): messages with management are permanent. On: an author can edit or delete their own; the old text stays in the audit trail.
Allow annotations	Lets people draw notes on report images.
Saved annotations can be edited, moved and deleted	Off: saved annotations are permanent.

19.5 Deleted cases

What happens to a case when it's deleted. Everything starts at "soft delete, keep data and images, keep permanently", so nothing is ever removed until your state chooses a time.

Setting	What it does
Your system does a soft delete	Yes: a delete hides the case but keeps it, and a System Admin can restore it. No: every delete is permanent, and soft delete disappears from Management and Records.
On a soft delete, keep	Data and images , or Data only (delete the images) right away.

Setting	What it does
Keep soft-deleted data	Permanently , or for a number of Months or Years from the delete date. After that, the case is permanently deleted (its audit trail stays).
Keep their images	Permanently, or months or years - never longer than the data.

Shortening a time: If a change would remove data that is already older than the new time, a confirmation says how many cases will be permanently removed before anything is saved. The clean-up runs nightly at 2 AM.

19.6 Worker infrastructure & performance

Setting	What it does
AI pre-pass / Status	Whether the AI model is loaded and running, and how much work is waiting.
AI pre-pass workers	How many reports the AI works on at once. Each worker needs several gigabytes of memory; more workers only speed things up much on a server with a graphics card.
Provisioning cap	The most workers this server was set up for - the - and + buttons stop there.

19.7 Data conventions & entry defaults

Setting	What it does
Fill blank coded fields with Not Stated	On: the pre-pass fills a coded field left blank on the form (that nothing else determined) with the Not Stated code.
Not Stated code	The code your state uses for Not Stated (commonly 96). 0 to 99.
Offer the Driver Report type	Shows the officer/driver choice when setting up a manual entry.
Manual entry "Any Fatality" question	Shows the fatality question in the manual-entry setup.

19.8 Imaging system & documents

Setting	What it does
State has an imaging system	On: the Refinery hands every document to your state's imaging system (it always keeps its own copy first, so a document is never lost while the imaging system is down).
Documents	Which kinds of document are sent.
Send when	On receipt , or On completion (reached the Vault) .
Keep the Refinery's copy (days after the Vault)	How long the Refinery keeps its own copy after a document is safely in the imaging system. 0 to 3650.

Setting	What it does
Agencies take crash-scene photos / The state stores them	Whether photos are accepted and filed with cases, and whether they go to the imaging system with the report images.

19.9 Location & imagery integration

Setting	What it does
Show button on /locate	Shows the street-view button on the Location map.
Button label	Its label (for example Open street view).
URL template	The address it opens, with the point's latitude and longitude filled in.

19.10 Other settings

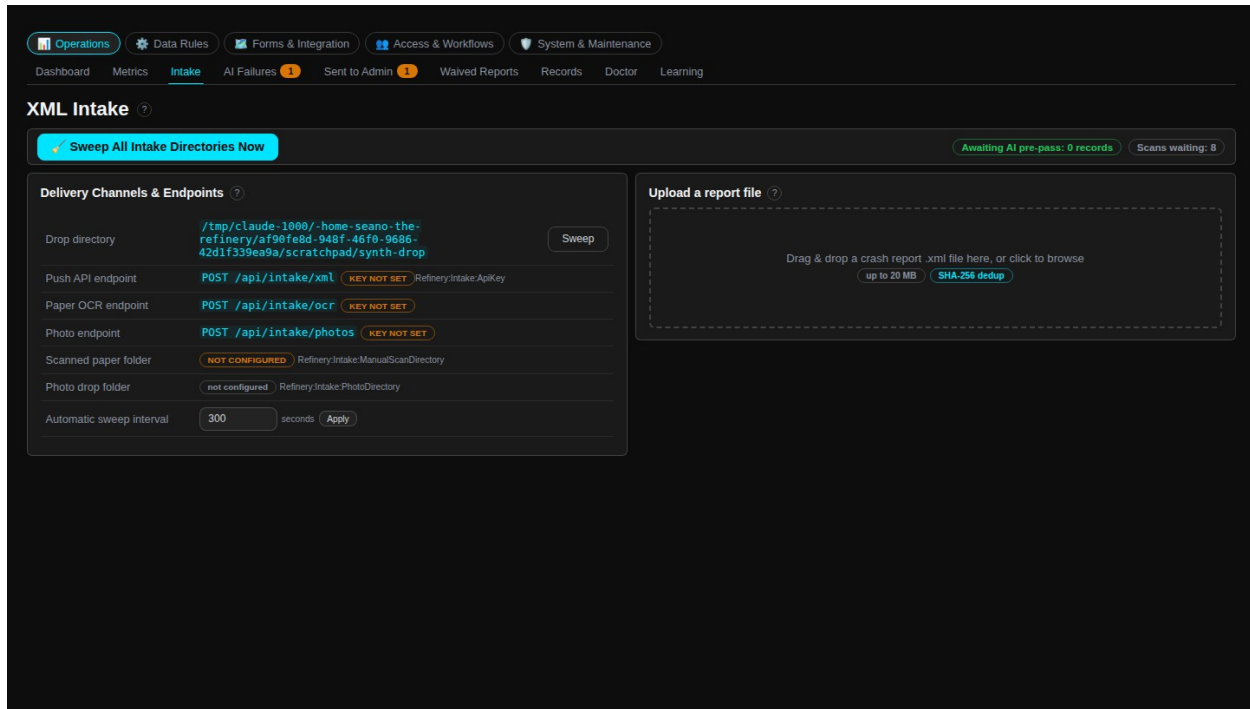
Plain key and value pairs the Refinery reads, for tuning that has no control of its own - for example **AiConfidenceGreenAt** and **AiConfidenceYellowAt**, the confidence levels at which an AI suggestion turns green or yellow on the review screens (80 and 50 by default). Search the list, change a value, or **+ Add Custom Setting**. Settings that have their own control elsewhere aren't listed.

Use with care: A mistyped key does nothing; a wrong value can change behavior everywhere. Change these only when Bad Marine support or this manual says to.

20. Intake and the Doctor

20.1 The Intake screen

Intake (Operations) shows every route by which reports reach the Refinery, whether each is set up, and lets you sweep a folder right away. It needs the Manage intake permission.



The Intake screen

Route	What it is	Set up by
Drop directory (XML intake)	A folder officers' reporting systems save XML reports into. The Refinery checks it on a timer.	Your IT, at installation (Refinery:Intake:XmlDropDirectory).
Push API endpoint	POST /api/intake/xml - a system can send each report directly instead of dropping a file. It must send the shared key in the X-Intake-Key header.	Your IT (Refinery:Intake:ApiKey).
Scanned paper folder	A folder scanners save PDF reports into; they go to the Manual entry queue.	Your IT (Refinery:Intake:ManualScanDirectory).
Paper OCR endpoint	POST /api/intake/ocr - where the optional OCR reader sends reports it has read, with a confidence for each value.	Your IT.
Photo drop folder / Photo endpoint	Crash-scene photos, filed with their case by the crash key in the file name.	Your IT (Refinery:Intake:PhotoDirectory).

A route shows **NOT CONFIGURED** until it's set up; that's normal for a route your state doesn't use.

- **Automatic sweep interval** - how often the folders are checked (in seconds; 15 to 3600, default 300). **Apply** saves it.
- **Sweep / Sweep Paper Folder** - check a folder now. The result says how many files were found, ingested, duplicates or failed, and how many are still being written and will be picked up next time.
- **SHA-256 dedup** - an identical file is recognised and never filed twice.

A file that can't be read goes to the folder's **failed** subfolder, with the reason in the sweep result; a processed file moves to **processed**. Nothing is deleted.

20.2 The Doctor

The **Doctor** (Operations) checks the Refinery's health and helps with a report that seems stuck. It needs the Administer permission.

Doctor

Run Full Diagnostic Battery **Sweep XML Intake Now** last run 19:16:21 1 failure(s), 1 warning(s)

AI pre-pass **no model staged - off** Pre-pass backlog **0** Pre-pass failures **1** XML drop folder **configured** Location lane (Map It) **FAIL** Rules and waivers **WARN** Environment & config **INFO**

Legacy output push **INFO** Plug-in bricks **INFO** Worklist queues **INFO** AI pre-pass **PASS** Hub / Vault consistency **PASS** Management flags **PASS** XML intake **PASS**

System Health Checks 1 failure(s), 1 warning(s)

Diagnostic check	Status	Finding	Details
Location lane (Map It)	FAIL	Spot-mapping is not resolving - Map It will fail	Details
Rules and waivers	WARN	Rule NE-174-1 blocked 8 reports this week	Details Business Rules
Environment & config	INFO	Fake AD is on (Development)	Details
Environment & config	INFO	Dev data seeder is on (Development)	Details
Legacy output push	INFO	Legacy output is not switched on	Details
Plug-in bricks	INFO	Plug-in brick status	Details
Worklist queues	INFO	Validation (both lanes open): 97 waiting	Details
Worklist queues	INFO	Location only (validation done): 1 waiting	Details
Worklist queues	INFO	Validation only (location done): 1 waiting	Details
Worklist queues	INFO	Routed to management (working list): 1 waiting	Details
Worklist queues	INFO	Management Hold: 1 waiting	Details
Worklist queues	INFO	Sent to the System Admin: 1 waiting	Details
Worklist queues	INFO	Intake case-matching: 4 waiting	Details
AI pre-pass	PASS	no backlog, no pre-pass errors	
Hub / Vault consistency	PASS	consistent	
Management flags	PASS	clean - 0 open High/Low	

Stuck Record Autopsy

Crash key or record GUID... **Run Autopsy**

Quick Remediations

Release idle claims (0) Sweep scanned-paper folder **AI Failures (1)**

The Doctor

At a glance

The row of lights under the buttons: whether the **AI pre-pass** model is loaded, the **pre-pass backlog**, **pre-pass failures**, and whether the **XML drop folder** is configured. Green is fine, amber needs a look, red is a problem.

Run Full Diagnostic Battery

Runs every health check and lists each with its status and what to do:

Check	Looks at
Environment & config	The server, the model file, the settings.

Check	Looks at
XML intake	The intake folders and endpoints.
AI pre-pass	The backlog and failures.
Worklist queues	How deep each queue is, and claims nobody is working.
Location lane (Map It)	The road-network service and reports waiting to be snapped.
Management flags	Cases in management that are inconsistent.
Hub / Vault consistency	Reports whose Hub and Vault copies disagree.
Rules and waivers	Waived reports in the Vault and the rule catalogs.
Plug-in bricks	The optional connections (imaging system, DMV, OCR, road network): real, local stand-in, or off.

A finding that has a safe fix comes with a **Do:** button (for example **Clear assignment** for a claim nobody is working, or re-running the pre-pass).

Stuck Record Autopsy

Type a crash key or report id and click **Run Autopsy**. It explains, step by step, where that report is, why, and what would move it on - with an **Open case** link.

Quick Remediations

- **Sweep XML Intake Now** and **Sweep scanned-paper folder**.
- **Release idle claims** - unassigns reports nobody has had open for 8 hours (a case sent back from management keeps its owner), so others can take them. (Normally a report stays with its holder until they unlock it.)
- **AI Failures** - opens the list.

21. Records, deletes and the Public DB

21.1 Records - deleting and restoring

Records (Operations) is where a System Admin deletes a report or case outside of management, and finds and restores a deleted one. It needs the Manage record lifecycle permission.

Records

Looking up a report or case

- **Look up record** by its record id, or **Find case** by crash key. The result shows the report's **Case**, **Channel**, **Status** and **Lifecycle** (Active, Soft-deleted, Routed to management).
- **Soft delete / Soft delete whole case** - hide it, recoverably. A reason is required.
- **Hard delete / Hard delete whole case** - remove it permanently. It warns **Permanent - this cannot be undone** and asks you to confirm; a reason is required.
- **Restore / Restore whole case** - on a soft-deleted report or case.

Where your state has no soft delete (a System Settings choice), only hard delete is offered.

Finding a deleted case

The screenshot shows the 'Records' section of the Refinery interface. At the top, there are navigation tabs: Operations, Data Rules, Forms & Integration, Access & Workflows, and System & Maintenance. Below these are sub-tabs: Dashboard, Metrics, Intake, AI Failures (1), Sent to Admin (1), Waived Reports, Records (selected), Doctor, and Learning.

The 'Find a case or report' section has two tabs: 'Deleted reports' (selected) and 'Live reports'. The search form includes the following fields:

- Crash key: e.g. 226000042
- Crash date from: mm/dd/yyyy
- Crash date to: mm/dd/yyyy
- County: (any)
- Involved party: last or first name
- Match type: Exact match
- Submitting agency:
- Agency case number:
- Severity: (any)
- Deleted from: mm/dd/yyyy
- Deleted to: mm/dd/yyyy
- Deleted by: e.g. ADJsmith
- Reason contains:

Buttons for 'Search deleted reports' and 'Clear' are at the bottom of the form.

Below the form, it says '1 deleted report(s)' and displays a table with the following columns: CRASH KEY, CRASH DATE, COUNTY, AGENCY, AGENCY CASE NO., INVOLVED, WHAT, DELETED, DELETED BY, REASON, and KEPT UNTIL. The table contains one row:

CRASH KEY	CRASH DATE	COUNTY	AGENCY	AGENCY CASE NO.	INVOLVED	WHAT	DELETED	DELETED BY	REASON	KEPT UNTIL
226000010	2026-03-02	Buffalo	ICR	SYN000015	PLACEHOLDER, TANGO, SCRATCHUSER, ALPHA	Investigator Report — Sep 28, 2026 whole case deleted	2026-09-28 19:04	AD\managementresolver	Non-reportable event - private-property fender bender.	permanently Restore View case

Below the table is a 'Delete a case or report' section with a 'Crash key' input field.

Finding a deleted case

Deleted reports searches only soft-deleted reports, with the same fields as Search (crash key, crash date range, county, involved party exact or sounds-like, agency, severity) plus **Agency case number**, **Deleted from / to**, **Deleted by** and **Reason contains**. A blank search lists them all, newest delete first. Each row shows when, who and why it was deleted and **Kept until** (from your deleted-case times), with **Restore** and **View case**.

What restoring does

A restored report never drops back where it was. It goes to the **Management** queue with an automatic message ("Report recovered from the soft-delete file. Restored by ..."). A manager reviews it and clicks **Return to workflow**; it then comes back in as a fresh report with its data as it was when deleted, the AI pre-pass run again, and both lanes to do. It keeps its crash key. Its images, held inside the Refinery while it was deleted, go back to the imaging system.

A resend after a delete: Agencies often resend a report after the first was deleted (for example because its image was unreadable). A resend of a deleted case comes in as a **new** case, not an amendment of the deleted one.

21.2 Public DB purge

The Public DB never changes after a report arrives - with one exception. **Public DB Purge** (System & Maintenance, marked red) permanently removes a record's public copy, for two real reasons: a **court order sealing a record** (for example one involving a minor), or a **driver's report that wrongly reached the Public DB** because it was mistaken for an officer's report. It needs the Purge public record permission, which is deliberately separate from other admin rights.

Public DB purge ?

Find a public copy

Crash key: e.g. 226000042

Crash date from: mm/dd/yyyy

Crash date to: mm/dd/yyyy

County: (any)

Involved party (not in the public copy): last or first name

Match type: Exact match

Submitting agency:

Agency case number:

Severity: (any)

Received from: mm/dd/yyyy

Received to: mm/dd/yyyy

Public record id: if you have it

Search the Public DB **Clear** ?

Purge history ?

No purge records logged in the system audit trail.

Public DB purge

1. **Find a public copy:** search the Public DB by crash key, crash date range, county, involved party (only if names are kept in the public copy), agency, agency case number, severity, date received, or the public record id. Click **Search the Public DB**.
2. Click **Purge...** on the record.
3. Choose **what should happen to the Hub/Vault record, if one exists**. There is no default - you must decide:
 - **Keep it** - the report was properly worked and belongs in the state's own records; only the public copy is wrong (the misclassified driver's report).
 - **Soft-delete it** - hide it, recoverably, while it's decided.
 - **Hard-delete it** - a court seal: gone everywhere, including every row in your state's older systems if Legacy output is set up, "as if it never existed". The case then opens nowhere.
4. Type the **Reason / court order ref** - at least 25 characters, in real words (at least three different words). A placeholder like "n/a" is refused, and the screen says why.
5. Tick the confirmation and click **Confirm permanent purge**.

Purge history is the permanent audit trail: every purge ever made, with the **Record ID**, **Timestamp**, who **Executed** it, the reason and what happened to the Hub/Vault record. It never holds the purged content itself.

Cannot be undone: A purge deletes the public legal snapshot for good. Check the record twice.

21.3 Public DB fields

The Public DB is a public access point, so it holds only the fields you allow. **Public DB Fields** (Forms & Integration) chooses them. It needs the Manage public fields permission, and appears only in a state with a Public DB.

Public DB fields ?

Search 304 fields by label or path... Left out only ☐

Send all shown Leave all shown out Reset to defaults

All fields (304) Classification (24) General (13) Investigator (10) Location (30) Non-motorists (33) 11 out Property damage (13) 10 out Vehicles (167) 37 out Witnesses (10) 10 out Other (4) 1 out

Sent to Public DB	Field	Path	Status
☒	Alcohol Involved	classification.alcoholInvolved	Included
☒	Contributing Circumstances Roadway Environment	classification.contributingCircumstancesRoadwayEnvironment	Included
☒	Crash Severity	classification.crashSeverity	Included
☒	Drug Involved	classification.drugInvolved	Included
☒	Intersection Geometry	classification.intersectionGeometry	Included
☒	Intersection Traffic Control Device	classification.intersectionTrafficControlDevice	Included
☒	Involve Ndot Property	classification.involveNdotProperty	Included
☒	Light Condition	classification.lightCondition	Included
☒	Manner Of Crash	classification.mannerOfCrash	Included
☒	Number Of Mainline Approaches	classification.numberOfMainlineApproaches	Included
☒	Roadway Clearance Time	classification.roadwayClearanceTime	Included
☒	Roadway Surface	classification.roadwaySurface	Included
☒	Roadway Surface Condition	classification.roadwaySurfaceCondition	Included

Left out of the Public DB: 69 / 304 Saved Discard changes Save Public DB config

Choosing what the Public DB holds

- Every field is listed with its **Path** and **Status** - **Sent to Public DB** or **Left out**. Search with the magnifier; **Left out only** shows just those.
- Switch a field in or out. **Send all shown** / **Leave all shown out** do the same for every field in the current search.
- **Save Public DB config** saves; **Discard changes** throws your changes away.
- **Reset to defaults** puts back the starting choice: every name, address, birth date and phone of a person, owner or witness, licence numbers, plates, VINs, insurance policy numbers, citation numbers and the narrative are left out; the officer's name, a business owner's name and everything about the crash itself are sent.

From now on: A change applies to reports received from then on. Public copies already written aren't rewritten.

22. Rules, priority classes and lookup values

These screens (Data Rules) hold your state's own knowledge: the rules a report must pass, which reports come first, and the code lists behind every coded field. Nothing here needs a software change.

22.1 Business rules

A **business rule** is one of your state's own checks - for example, a heavy truck or a vehicle showing a hazmat placard must have the truck supplement completed. A broken rule appears on the review screens as a **Must fix** (severity error, blocks completion and the Vault) or a **Check** (a warning). **Business Rules** needs the Manage business rules permission.

The screenshot displays the 'Business rules' management interface. On the left, a table lists existing rules:

Rule	What it checks	Severity	Changed	Actions
NE-174-1	A Heavy Truck/Bus supplement (NDOT Form 174) must be completed for any vehicle whose body type is a heavy-truck/bus code, or that displayed a hazardous-materials placard. Vehicle body type or HM placard requires a completed Heavy Truck/Bus supplement (Form 174).	error	2026-09-28 system:seed	Edit, Disable
NE-179-1	A Fatal Crash Report (NDOT Form 179) must be completed when any person has a fatal injury. A person is coded with a fatal injury but the Fatal Crash Report (Form 179) is not completed.	error	2026-09-28 system:seed	Edit, Disable

On the right, the 'New rule' configuration panel is shown. It includes fields for 'Rule id' (NE-XXX-1), 'Severity' (warning), and 'Applies per' (e.g. vehicles). There are sections for 'Description', 'Message shown to the reviewer', and 'Source'. The logic is defined in 'WHEN' and 'THEN' clauses. The 'WHEN' clause is set to 'field check' with 'field path, e.g. vehicles.bodySt' and 'equals' to 'value'. The 'THEN' clause is set to 'field check' with 'field path, e.g. vehicles.bodySt' and 'is present / blank' to 'is present (non-empty)'. At the bottom, there are buttons for 'Validate', 'Test against records', and 'Publish rule'.

Business rules

The list

Each rule shows its id, **What it checks**, **Severity** and **State** (live, or off / draft), with **Edit**, **Disable** / **Enable**, and its history of changes.

Building or changing a rule

Part	What goes in it
Rule	A short id, for example NE-174-1.
Description	What it checks, in plain words.
Severity	Error (Must fix, blocks) or warning (Check).
Source	Documentation only - the manual section, form or statute the rule comes from.

Part	What goes in it
Applies per	Optional repeating group - for example vehicles checks each vehicle on its own.
WHEN	The condition that makes the rule apply.
THEN	What must then be true.
Message shown to the reviewer	The plain words a reviewer sees on the field.
Change note	Why you changed it (kept in the history).

Conditions are built with the condition editor: a **field check** (**equals**, **is one of**, **is present (non-empty)**, **is blank**) combined with **AND (all of...)**, **OR (any of...)** and **NOT**, as deep as needed. **+ add condition** adds one. **View / paste as raw JSON** shows the same rule as text, for copying between states.

Testing before going live

1. Click **Save as draft**. A draft isn't used anywhere yet.
2. **Validate** checks the rule is well-formed.
3. **Test against records** runs it against real reports and shows which would pass and which would fail - before anyone sees it.
4. **Publish rule** makes it live. It's used on the next pre-pass and every check from then on (**Live on next pre-pass**). Each save of a live rule makes a new version.

History and point-in-time

Point-in-time - pick a date (**As of**) and **Show rules in effect** lists the rules that were live then. Any earlier version can be brought back with **Restore**.

22.2 MMUCC6 rules

The national MMUCC standard comes with a catalog of edit rules (113 of them) that every report is also checked against before the Vault. **MMUCC6 Rules** lists each with its **Rule id**, **Message**, **Severity** and **Status**. You can't change what a national rule says, but you can **Disable** one your state doesn't follow, and **Re-enable** it. It needs the Manage MMUCC rules permission.

Operations Data Rules Forms & Integration Access & Workflows System & Maintenance

Field Definitions Lookup Values Business Rules **MMUCC6 Rules** Priority Classes

MMUCC6 rules

0 of 113 disabled for nebraska.

Rule	Severity	Message	Status
ER.002	Error	FIRST HARMFUL EVENT = Non-Motorist but no person record has a non-motorist PERSON TYPE.	Enabled <button>Disable</button>
ER.003	Error	FIRST HARMFUL EVENT = Motor Vehicle In-Transport but MANNER OF COLLISION is the non-collision sentinel.	Enabled <button>Disable</button>
ER.004	Error	FIRST HARMFUL EVENT = Parked Motor Vehicle but no vehicle has VEHICLE STATUS PRIOR TO CRITICAL EVENT = Parked.	Enabled <button>Disable</button>
ER.005	Error	A vehicle's SEQUENCE OF EVENTS includes Non-Motorist but a non-motorist-type person record has no populated NON-MOTORIST subrecord.	Enabled <button>Disable</button>
ER.006	Error	FIRST HARMFUL EVENT isn't Motor Vehicle In-Transport but MANNER OF COLLISION isn't the non-collision sentinel.	Enabled <button>Disable</button>
ER.007	Error	FIRST HARMFUL EVENT doesn't match any vehicle's SEQUENCE OF EVENTS.	Enabled <button>Disable</button>
ER.008	Error	FIRST HARMFUL EVENT = Harmful Event, Details Unknown but MANNER OF COLLISION isn't Unknown.	Enabled <button>Disable</button>
ER.009	Error	LOCATION OF FIRST HARMFUL EVENT = In Parking Lane or Zone but RELATION TO JUNCTION says Within Interchange Area = Yes.	Enabled <button>Disable</button>
ER.010	Error	TYPE OF INTERSECTION = Not an Intersection but RELATION TO JUNCTION specific location = Intersection or Related.	Enabled <button>Disable</button>
ER.011	Error	TYPE OF INTERSECTION is a real intersection type but RELATION TO JUNCTION specific location isn't Intersection or Related.	Enabled <button>Disable</button>
ER.012	Error	RELATION TO JUNCTION specific location is a non-intersection location but TYPE OF INTERSECTION isn't Not an Intersection.	Enabled <button>Disable</button>
ER.013	Error	RELATION TO JUNCTION specific location = Intersection or Related but TYPE OF INTERSECTION isn't a real intersection type.	Enabled <button>Disable</button>
ER.014	Error	FIRST HARMFUL EVENT = Motor Vehicle In-Transport but fewer than two vehicles have MOTOR VEHICLE UNIT TYPE = Motor Vehicle In-Transport.	Enabled <button>Disable</button>

MMUCC6 rules

22.3 Priority classes

A **priority class** is a kind of report that is worked first - for example Fatal, Truck/Bus, State property damage, Injury-A. **Priority Classes** needs the Manage priority classes permission.

Operations Data Rules Forms & Integration Access & Workflows System & Maintenance

Field Definitions Lookup Values Business Rules MMUCC6 Rules **Priority Classes**

Priority classes

Shipped defaults for nebraska

Order	On	Class	Condition	Purpose	Open records	
1	☒	Fatal	vehicles.driver.person.injuryStatus = 01 OR vehicles.occupants.person.injuryStatus = 01 OR nonMotorists.injuryStatus = 01 OR nonMotorists.person.injuryStatus = 01	Fatal	6	<button>Edit</button> <button>Remove</button>
2	☒	Injury-A	vehicles.driver.person.injuryStatus = 02 OR vehicles.occupants.person.injuryStatus = 02 OR nonMotorists.injuryStatus = 02 OR nonMotorists.person.injuryStatus = 02		11	<button>Edit</button> <button>Remove</button>
3	☒	Truck/Bus	vehicles.bodyStyle is one of 14, 15, 16, 17, 19, 20, 22, 23, 24, 25, 26, 27, 29, 30 OR vehicles.hazmatPlacardDisplayed = 01		10	<button>Edit</button> <button>Remove</button>
4	☒	SPD	classification.involveNdotProperty is one of Y, 01, true	State property damage	0	<button>Edit</button> <button>Remove</button>

+ Add a class

Save changes Discard changes Restore shipped defaults

Priority classes

- Each class has a **Name**, an **Order** (up / down arrows - higher classes are worked first), an on/off switch, and a **Condition** built with the same condition editor as rules (**A record is in this class when...**).
- **Purpose - Fatal** makes the class feed the FARS work queue and the case's FARS status track; **State property damage** ties it to SPD tracking (it switches off when SPD tracking is off). Most classes have no purpose; the Refinery never goes by a class's name. If no class has the Fatal purpose, the screen warns that the FARS queue will stay empty.
- **Check against open records** - how many open reports each class would catch.
- **+ Add a class, Remove, Save changes, Discard changes, and Restore shipped defaults.**

A report can belong to several classes. Priority changes only the order of the queues, never the work.

22.4 Lookup values (code lists)

Every coded field reads its choices from a code list - weather, light condition, body type and so on. **Lookup Values** manages them. It needs the Manage lookup values permission (System Admins by default; it can be granted to a Manager on its own).

The screenshot displays the 'Lookup values' management interface. On the left, a sidebar lists various categories with their respective list counts: Carrier (11), Classification (18), Driver (16), Fars (5), Location (2), NonMotorist (11), Occupant (8), Person (7), Substance (9), and Vehicle (31). The main content area features a search bar at the top. Below it, there are buttons for '+ Add list', 'Bulk CSV import', and 'Point-in-time'. The 'Add a code list' form includes the following fields: 'Field path' (with a placeholder 'section.fieldName'), 'Title' (with a placeholder 'Human-readable list name'), 'Source (optional)' (with a placeholder 'e.g. NDOT Form 40'), 'Alternate paths (optional, comma-separated)' (with a placeholder 'section.otherField, section.another'), and a 'Group' dropdown menu currently set to 'Other'. A checkbox for 'Multi-select (the field can hold more than one code)' is also present. At the bottom of the form is a blue button labeled 'Create code list' with a plus icon.

Lookup values

- Pick a list (search by title or field). Its codes are shown with their labels.
- **Add a code** - a new code and label. **Save code.**
- **Edit label** - correct a code's description.
- **Retire** - stop offering a code for new work. Reports that already have it keep it and show it. **Reactivate** brings it back.
- **+ Add list** - a new code list for a field that should become a drop-down (**Create code list**). A field with a list becomes a drop-down on the review screens.

- **Bulk CSV import** - load many codes from a CSV file (columns such as FieldPath, ListTitle, Code, Label, DisplayOrder, MultiSelect). **Download example CSV** gives the layout. The result lists every line as added, updated or refused, with why.

History is kept: Code lists are versioned. **Point-in-time** - pick a date and **Look up that date** - shows the label a code had on that day. A report approved last year keeps the label it was approved with, even if a label changes today.

23. Fields and forms

Every state's crash report has its own fields and its own printed forms. These two screens let an administrator add a field, decide who works it, and line the review screens' highlight boxes up with the printed forms - without a software change.

23.1 Field definitions

Field Definitions (Data Rules) lists every field in your state's record. It needs the Manage field definitions permission.

The screenshot displays the 'Field Definitions' page. At the top, there are tabs for Operations, Data Rules (selected), Forms & Integration, Access & Workflows, and System & Maintenance. Below these are sub-tabs: Field Definitions, Lookup Values, Business Rules, MMUCC6 Rules, and Priority Classes. The main area shows a list of 304 fields, with filters for General (27), Classification (24), Location (30), Vehicles (167), Non-Motorists (33), Property (13), and Witnesses (10). A search bar and toggle for 'Show disabled only' are present. The table lists fields with their paths, labels, kinds (Text, Coded), lanes (Validation, Location), lookup status (Has Lookup), review status (on form, on screen), and a disabled toggle. On the right, the 'Add Scalar Field' form is visible, allowing the creation of new fields with various attributes. The 'CSV Bulk Import' section at the bottom right provides a way to import multiple fields at once.

Field definitions

Column	Meaning
Path	The field's place in the record, for example vehicles.driver.licenseState.
Label	The name people see on the screens.
Kind	Text , Coded (has a code list), Date , Yes/no , or Derived (worked out by the Refinery, not typed from the report).
Lane	Validation or Location - which team works it. A Location field is read-only on the Validation screen.
Has Lookup	Whether it has a code list (and so a drop-down).
Shown / Hidden	Hidden fields aren't offered on the screens (see below).
Added	Marks a field your state added (as opposed to one shipped with the Refinery).

Adding a field

1. Click **+ Add Field (Add Scalar Field)**.
2. Enter the **Field path** (in an existing part of the record - for example under vehicles or location), the **Display label**, and choose the **Lane**.
3. Tick **Mandatory** if a report can't be completed without it - a blank mandatory field blocks **Mark complete** on its lane and names the field.
4. Tick whether the narrative check should look at it.
5. If it arrives in the electronic reports, give its **XML source path** so intake fills it.
6. Save. The field appears on the review screens straight away.
7. If it should be a drop-down, click **Create its lookup list >>** (or **+ Create Lookup**) and add its codes (see Lookup values).

Hiding a field

A field your state doesn't capture can be switched to **Hidden**. It's no longer offered as a blank to fill in and the AI stops filling it with Not Stated. Hiding never hides real data: a report that does carry a value in that field still shows it.

Many fields at once

For a new state's setup, fields can be loaded from a CSV (columns such as Path, Label, Lane, Kind, MmuccElement, XmlSource). **Download Example CSV** gives the layout. The result lists each line as added or refused, with why. **Retire** removes a field your state added.

23.2 Form calibration

On the review screens, selecting a field boxes it on the printed report. Those boxes come from **Form Calibration** (Forms & Integration): for each of your state's forms, where each field is printed on each page. It needs the Manage form calibration permission. A new state does this once per form during setup; after that it rarely changes.

Operations Data Rules **Forms & Integration** Access & Workflows System & Maintenance

Form Calibration Schema Mapping MMUC6 Mapping State-Unique Values NHTSA Fields Public DB Fields Legacy Output

Form calibration ?

form174 | « Prev Page 1 of 1 Next » | + Group Boxes

Choose File No file chosen Save Calibration Download layout

100% + Fit Reset Clear page 1

Search 33 mapped fields...

All Pages Pg 1 (33)

Field	Page
general.localIdOrDistrict (general.localIdOrDistrict)	1 Go to it
general.agencyCaseNumber (general.agencyCaseNumber)	1 Go to it
location.countyId (location.countyId)	1 Go to it
location.cityCensusId (location.cityCensusId)	1 Go to it
general.crashDateTime (general.crashDateTime)	1 Go to it
general.crashDateTime (general.crashDateTime)	1 Go to it
general.crashDateTime (general.crashDateTime)	1 Go to it
location.streetNameOrHighwayNumber (location.streetNameOrHighwayNumber)	1 Go to it

NDOT KEY NO. State of Nebraska Investigator's Supplemental Heavy Truck/Bus Crash Report Sheet ____ of ____

LOCAL NO./DISTRICT AGENCY CASE NO. STATE USE ONLY

DATE OF CRASH PLACE OF CRASH COUNTY CITY

ROAD ON WHICH CRASH OCCURRED STREET/HIGHWAY NO.

VEHICLE NO. DRIVER NAME (Last, First, Middle)

CARRIER NAME COMPANY UNIT NO.

CARRIER ADDRESS CITY, STATE, ZIP, COUNTRY

SLEEP LOG HOURS NUMBER OF HOURS OF SLEEP IN THE PREVIOUS 24 HOURS NUMBER OF HOURS SINCE WAKING UP

CHV LICENSE STATUS COMPLIANCE WITH CDL ENDORSEMENT(S) GROSS VEHICLE WEIGHT/WEIGHT RATING

00 - No CDL 00 - No Endorsement(s) Required for Vehicle GROSS VEHICLE WEIGHT RATING (GVWR), GROSS VEHICLE WEIGHT (GVW), or GROSS COMBINATION WEIGHT RATING (GCWR), whichever is greater

01 - Canceled/Denied 01 - Endorsement(s), Complied With 01 - 10,000 lbs or less (Require HazMat Placard)

02 - Disqualified 02 - Endorsement(s), Not Complied With 02 - 10,001 lbs - 26,000 lbs

03 - Expired 03 - Endorsement(s), Compliance Unknown 03 - 26,001 - 50,000 lbs

04 - Revoked 04 - Unknown, if Required 04 - 50,001 - 80,000 lbs

05 - Suspended 05 - Unknown, if Required 05 - More than 80,000 lbs

06 - Valid 06 - Valid 06 - Valid

07 - Learners Permit 07 - Learners Permit 07 - Learners Permit

08 - Other, Not Valid 08 - Other, Not Valid 08 - Other, Not Valid

09 - Unknown 09 - Unknown 09 - Unknown

VEHICLE CONFIGURATION CARGO BODY TYPE

01 - Less than 10,000 GVWR with HazMat Placard 00 - No Cargo Body (bobtail, light MV with hazardous materials [HM] placard, etc.)

02 - Bus/Large Van (seats for 9-15 occupants, including driver) 01 - Bus

03 - Bus (seats more than 15 occupants, including driver) 02 - Auto Transporter

04 - Single-Unit Truck (Chassis and GVWR more than 10,000 lbs) 03 - Cargo Tank

05 - Single-Unit Truck (3 or more axles) 04 - Concrete Mixer

06 - Truck Pulling (Trailer(s)) 05 - Concrete Mixer

07 - Truck Tractor (bobtail)

IDENTIFICATION TYPE

01 - U.S. DOT Number

02 - State Number

97 - Not Applicable

99 - Unknown

Country/State Code

Non-U.S. Country Code (e.g. Mexico or Canada)

U.S. State Code

CAR IDENTIFICATION

U.S. DOT

If not a U.S. DOT number, include State issued I.D. number and State

I.D. No.

TYPE OF CARRIER

01 - Interstate Commerce

02 - Intrastate Commerce

03 - Not in Commerce/Government

04 - Not in Commerce/Other Truck, Bus, or Farm Vehicle

HAZARDOUS MATERIALS (Cargo Only)

HazMat ID No.

Form calibration

1. Choose a form (or + **New form...**). Its blank pages are shown on the canvas, with the boxes already placed. **Prev / Next** move between pages; **Fit** and **- / +** zoom.
2. Draw a box on the printed field, or select an existing one, and set its **Mapped field** - the record field it shows. **Mapped to:** confirms it.
3. Drag a box to move it, drag its edges to resize it. **Delete Box** removes one.
4. For a table that repeats (occupant rows, for example), select the first row's box and use **Copies** and **Per page**, then **Generate**, to make the rest.
5. **Grouping** - several boxes can be grouped (**Create group**) and moved together, or **Ungrouped**.
6. Click **Save Calibration**. The review screens use it at once.

The list on the right shows every mapped field and its page; search it, or **Go to it** to jump to a box. **Download layout** saves the form's layout as a file.

Real scans sit crooked: Paper scans rarely line up exactly with the blank form. The review screens adjust each page automatically, and a reviewer can nudge a page with **Line up this page** - calibration only needs to match the blank form.

24. Mapping and the national export

The Refinery works in your state's own format. Two kinds of mapping connect it to the outside world: **in** (reading a report format an agency sends) and **out** (the national MMUCC6 format NHTSA uses). These screens (Forms & Integration) are set up once, usually when a state or a new agency system comes on.

24.1 Schema mapping - reading a new report format

When an agency's system sends reports in a format the Refinery hasn't seen - a different XML layout, or MMUCC6 itself - an administrator maps it once and locks it; from then on those reports are read at intake with no programming. It needs the Manage schema mapping permission.

Schema mapping

1. **Sample document & field discovery** - paste or load a sample report (**Example XML** gives one) and click **Discover schema fields**. Every field in it is listed with a sample value.
2. **Discovered field mapping** - for each **Source field**, choose the **Refinery target field** it fills, and a **Default** if needed.
3. **Code crosswalk** - where the sender's codes differ from yours, map each of their codes to yours.
4. **Assemble JSON** shows the whole mapping as text (**Example mapping JSON** shows the layout); it can be copied between installations.
5. **Save & lock schema**. The mapping is **Live at intake immediately**: the next report in that format is read with it.

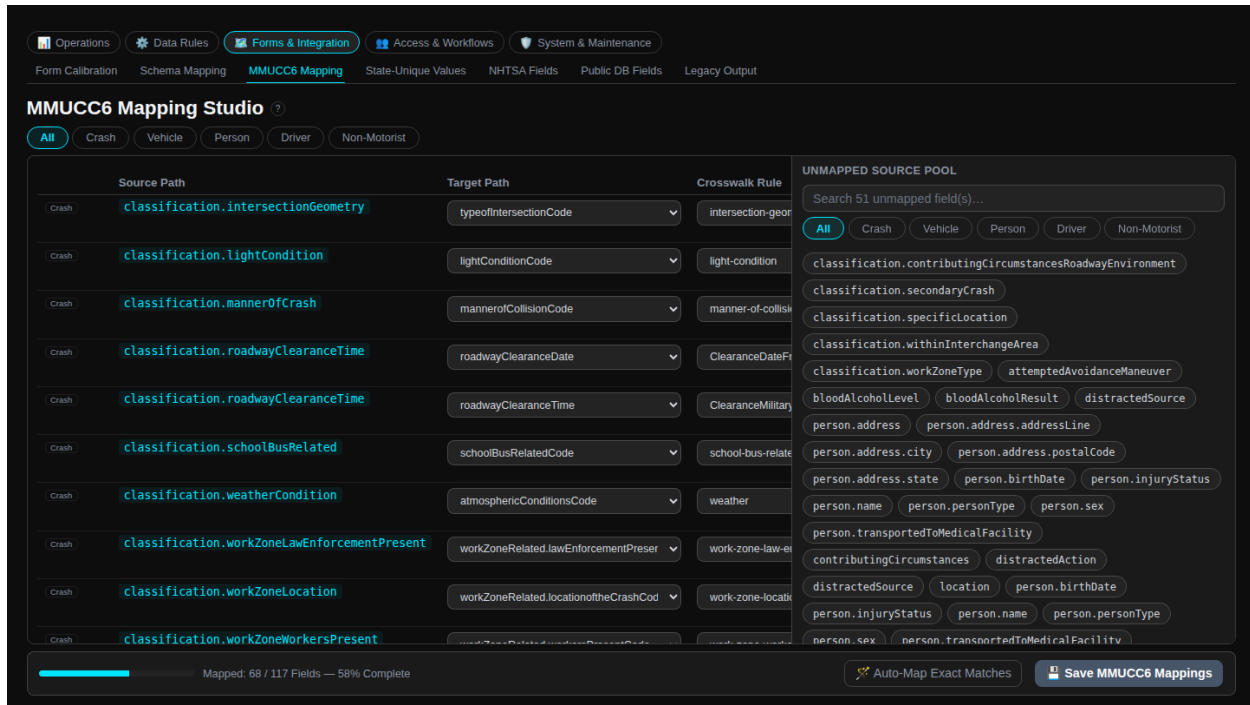
Schema lock & lifecycle lists each locked schema, its versions, and **Restore** for an earlier one. **+ Register new schema** starts another.

Imaging system request fields

The same screen sets the names of the fields the Refinery sends with each document to your state's imaging system (for example the keyword names it indexes on). **Save imaging system fields.** Anything left blank uses the installation's defaults.

24.2 The MMUCC6 mapping studio

The MMUCC6 export turns each Vault record into the national format. The **MMUCC6 Mapping Studio** decides which of your fields fills which MMUCC6 element. It needs the Manage MMUCC mapping permission.



The MMUCC6 mapping studio

- Two panes: the **Unmapped Source Pool** (your fields not yet mapped) and the mappings, grouped by domain (crash, vehicle, person and so on; **All** shows every one).
- Click a field in the pool to stage a mapping, then choose its **Target Path** (the MMUCC6 element) and **Crosswalk Rule** - how the value is turned into MMUCC6 (for example **Raw (no transform)**, or a code crosswalk).
- **Auto-Map Exact Matches** maps every field whose name matches an MMUCC6 element exactly, in one click; check the result.
- **Remove** unmaps one. **Save MMUCC6 Mappings** saves.

Built-in exports: A state whose MMUCC6 export was built into the Refinery (the demonstration state) doesn't need the studio.

24.3 State-unique values

Some of your state's codes have no exact MMUCC6 equivalent. They're kept as **state-unique values** rather than forced into a wrong national code. **State-Unique Values** shows which ones actually occur. It needs the Manage MMUCC mapping permission.

The screenshot shows the 'State-unique values' interface. At the top, there's a navigation bar with tabs: Operations, Data Rules, Forms & Integration (active), Access & Workflows, and System & Maintenance. Below this is a sub-navigation bar with: Form Calibration, Schema Mapping, MMUCC6 Mapping, State-Unique Values (active), NHTSA Fields, Public DB Fields, and Legacy Output.

The main section is titled 'State-unique values'. It includes a date range selector (Approved from 08/30/2026 to 09/28/2026), a 'Scan' button, and a status indicator '6 Vault reports scanned'. There's also a 'Filter fields or codes...' search bar and a 'NHTSA Fields' dropdown.

Below the header, there's a 'Fields' section with 12 items. Each item has a 'Field' name, a 'Why' column (all saying 'No clean MMUCC6 match'), a 'Reports' column (all 6), a 'Codes' column (all 1), and an 'NHTSA' column (all 'Not send').

On the right, there's a detailed view for 'Contributing Circumstances - Roadway Environment'. It shows the MMUCC6 element 'crashRelatedFactorsCode' and a table of codes and times. The table has two columns: 'Code' and 'Times'. The first row shows '00 - None' with a time of 6.

State-unique values

1. Choose the range of reports: **Approved from ... to ...** (both dates; a reversed range asks you to swap them).
2. Run the scan. The **Fields** list shows each field that had state-unique values, with how many **Codes** and **Reports**.
3. Pick a field to see its codes: each **Code**, how many **Times** it occurred, its **MMUCC6 element** and **Why** it has no national match.
4. **NHTSA Fields ->** goes to where you decide whether they're sent.

24.4 NHTSA fields - what goes to NHTSA

Not every state sends every MMUCC6 element to NHTSA. **NHTSA Fields** chooses. It needs the Manage NHTSA field selection permission.

Operations Data Rules **Forms & Integration** Access & Workflows System & Maintenance

Form Calibration Schema Mapping MMUCC6 Mapping State-Unique Values **NHTSA Fields** Public DB Fields Legacy Output

NHTSA export ?

Include state-unique values ☐ off Filter 97 fields by path or MMUCC Select all Deselect all Reset to defaults

All fields (97) Classification (9) General (2) Investigator (1) Location (4) Narrative (1) NonMotorists (7) Vehicles (73)

Send to NHTSA	State source field	MMUCC6 target	Export status
☒	classification.intersectionGeometry	typeOfIntersectionCode	Included
☒	classification.lightCondition	lightConditionCode	Included
☒	classification.mannerOfCrash	mannerOfCollisionCode	Included
☒	classification.roadwayClearanceTime	roadwayClearanceTime	Included
☒	classification.schoolBusRelated	schoolBusRelatedCode	Included
☒	classification.weatherCondition	atmosphericConditionsCode	Included
☒	classification.workZoneLawEnforcementPresent	workZoneRelated.lawEnforcementPresentCode	Included
☒	classification.workZoneLocation	workZoneRelated.locationOfTheCrashCode	Included
☒	classification.workZoneWorkersPresent	workZoneRelated.workersPresentCode	Included
☒	general.agencyCaseNumber	localAgencyCaseNumber	Included
☒	general.crashDateTime	crashDate	Included
☒	investigator.agencyName	agencyOrPoliceJurisdiction	Included
☒	location.countyId	crashCountyCode	Included

Active NHTSA export fields: 97 / 97 selected Saved ? Crash key Download XML Discard changes Save NHTSA config

NHTSA field selection

- Every MMUCC6 field is listed with its **State source field**, its **MMUCC6 target** and its **Export status**; tick **Send to NHTSA** for each one to send. Everything is sent until you untick it.
- **Select all / Deselect all** for the fields shown; search with the magnifier.
- **Include state-unique values** - also send your state-unique codes alongside the national ones (**See the codes** -> shows them).
- **Download XML** - a sample export with your current choices, to check.
- **Save NHTSA config, Discard changes, Reset to defaults.**

A section of the export left empty by your choices is left out entirely, rather than sent empty.

25. Legacy output - keeping older systems fed

A state moving to the Refinery usually still has older systems - reports, dashboards, other agencies' feeds - built on its old crash database. **Legacy output** keeps them running: your state builds empty copies of its old tables, and the Refinery fills them with each finished case, in the old layout. It needs the Manage legacy output permission.

Legacy output

25.1 How it works

- Your state's IT creates a database with the old tables (empty) and gives the Refinery its connection (installation setting Refinery:LegacyOutput:ConnectionString). **Test connection** confirms it.
- On this screen you map Refinery values into each old table's columns.
- The Refinery pushes each case's rows - rows only, never files - whenever the case changes (**Live**) or once a day (**Scheduled**).
- The old tables also get the case's **status codes** (the four tracks on a case's page - workflow, work zone, SPD, FARS), so systems that key on a status keep working. These are the Refinery's own codes, listed in the Reference chapter.

25.2 Mapping a table

1. **Old tables** (left): **Add table** - pick one of the tables your state built (the box offers the tables found in the database). **Re-read columns** refreshes its columns if IT changed them; **Remove table** takes it off.
2. For each **Old column**, choose the **Source** - the Refinery field (or a fixed value) that fills it - and the options:
 - **Type** and **Format** - how the value is written (for example a date format).

- **Blank as** - what to write when the Refinery has no value.
 - **Value map** - where your old system used different codes, one mapping per line, for example **Y=1. Load Vault values** lists the values the Refinery actually holds for that field, and **Old system values** the ones in the old table, so you can map every one.
 - **Key** - the column(s) that identify a case's row, so a later push updates it instead of adding another.
3. **Auto-suggest** proposes a source for columns whose names match; **Unmapped only** shows only what's left.
 4. **Preview** shows the rows a sample case would produce.
 5. **Save mapping**. Each save is a new version; **Mapping versions** lists them, and **Download this mapping** saves one to a file that can be imported on another installation (**Load**).

25.3 Pushing

- **Live** - push each case when it changes. **Scheduled - Daily at** a time you set. Choose which case statuses are pushed.
- **Data push now** - push every case that is due right away.
- **Re-push** - sends the cases finished between two dates again (**From / To**), for example after fixing a mapping. A reversed range asks you to swap the dates.
- **Push progress** - **Last run**, **Last success**, and how many **Cases** and **Rows** were pushed.
- From a case's page, **Push this case now** pushes one case.

Special cases

Case	What the old tables get
A case pulled back for rework	The last approved data stays in place until it's approved again.
A deleted (removed) case	Its rows stay, with a removed status - they're never deleted.
A court-sealed case	Every row of the case is deleted from every mapped table - as if it never existed. This is the one exception to never deleting.
A driver's report	Pushed like any other report (it's never in the Public DB, but the state's own systems may need it).

Demo systems: A demo uses a built-in sample target instead of a real database, with a starter mapping loaded, so the screen can be tried without one.

26. Other administration screens

26.1 Sent to Admin

Cases management has sent up for a System Admin (Operations). Each shows the **Case**, who it was **Sent by**, how long it has been **Waiting** and the **Latest message**; **Open** -> goes to the case's management page, where the System Admin answers and clicks **Back to management**. The tab shows how many are waiting.

26.2 Waived Reports

Every report that reached the Vault (or is in management) with a rule waived for it (Operations). Nothing is waived silently: each waiver is listed here with the rule, who waived it, when and why.

The screenshot displays the 'Waived reports' section within the 'Operations' tab. At the top, there are navigation tabs: Operations, Data Rules, Forms & Integration, Access & Workflows, and System & Maintenance. Below these are sub-tabs: Dashboard, Metrics, Intake, AI Failures (1), Sent to Admin (1), Waived Reports (active), Records, Doctor, and Learning. The 'Waived reports' section has a title 'Waived reports' with a help icon. Below the title is a search form with the following fields:

- Crash key: e.g. 226000042
- Crash date from: mm/dd/yyyy
- Crash date to: mm/dd/yyyy
- County: (any)
- Involved party: last or first name
- Match type: Exact match
- Submitting agency:
- Agency case number:
- Severity: (any)
- Rule waived: e.g. ER.081
- Where: (any)
- Waived from: mm/dd/yyyy
- Waived to: mm/dd/yyyy
- Waived by: e.g. ADjsmith
- Reason contains:

At the bottom of the search form are 'Search waived' and 'Clear' buttons. Below the search form, it says '0 waived reports'.

Waived reports

- **Search waived** by the usual case fields plus **Rule waived**, **Waived by**, **Waived from / to** and **Reason contains**.
- Each row shows **Where** it is (**In the Vault** or **In management**) with **Open**.
- **Pull back...** takes a report out of the Vault back to management to be reworked properly, and lifts the waiver. It asks you to confirm.

26.3 Learning

Learning (Operations) turns reviewers' corrections into better suggestions. Nothing here changes a report and nothing trains the AI model; each row is a recommendation for you to accept or not.

Learning

Min samples: 2 Override threshold (≥): 0.7 **Run Analysis** Active Correction Memory: 0 Rules

AI Override Recommendations (6) from 88 logged edit(s) with an AI proposal

Field path	Override rate	Common overridden value	Rule
vehicles.driver.licenseClass STOP PROPOSING	98% (17/19)	"96" x17	officer value - 96 reviewers override this regardless of
classification.crashSeverity REVIEW THE RULE	88% (16/20)	"02" x4	officer value - suggest note - why reviewers change it
classification.weatherCondition CONSISTENT REMAP	83% (15/18)	"04" x15	03 - 04 consistent reviewer remap
location.milepostDirection CONSISTENT REMAP	100% (9/9)	"S" x5	officer value - S consistent reviewer remap
classification.lightCondition CONSISTENT REMAP	100% (8/8)	"02" x6	02 - 02 consistent reviewer remap
classification.roadSurfaceCondition CONSISTENT REMAP	100% (5/5)	"02" x5	01 - 02 consistent reviewer remap

Active Correction Memory 0 active Show retired Filter by field path, value or note...

No active correction rules configured. Accept a recommendation above to enforce a rule.

Learning

1. Set **Min samples** (how many corrections a field needs before it counts) and **Override threshold** (how often reviewers must override the AI, from 0 to 1), then run the analysis.
2. **AI Override Recommendations** lists each field reviewers keep overriding, with its **Override rate** and the **Common overridden value**. For each:
 - **Remap Value** - adds a correction: when the officer's value is X, the pre-pass suggests the value reviewers actually settle on, with your note.
 - **Stop Proposing** - the AI makes no guess for that field and just flags it, so it still shows in triage.
 - **Dismiss** - hides the row until the next run.

Active Correction Memory lists the corrections in force (**Officer value** -> **suggested value**, with the rule type and when it was applied). They're used on the next pre-pass. Retiring one keeps it in the history. A reviewer still confirms every report either way.

26.4 FARS alcohol and drug mapping

When a FARS analyst codes a person's alcohol test or drug toxicology (lab results arrive weeks after the crash), the Refinery writes them back to your state's own fields. This screen (reached from System Settings) maps NHTSA's FARS codes to your state's codes. For each FARS code choose the state value to write, **Leave blank**, or **Not written** - a code that's not written stops that person's whole set, which then stays in FARS only.

- **Alcohol** - test status, test type and result, and the **Measured BAC** range (a FARS result from Min to Max writes the result code you choose and the level).
- **Drug toxicology** - test status and specimen, and the result. FARS codes each drug found by category (a range of codes); each category writes your state's result and, where the whole

category is one of your state's drug types, the drug type. **Leave as entered** keeps the officer's drug type.

- **Save**, or **Reset to shipped default**. A state with no shipped mapping starts empty.

Who	Alcohol test	Drug test
A person your state record keeps these fields for (a driver)	Written to their fields	Written to their fields
Anyone else (a passenger, a pedestrian or cyclist)	Included in the MMUCC6 export for that person	Kept in FARS only - MMUCC6 has no drug test
A person added in FARS	Kept in FARS only	Kept in FARS only

26.5 Work Zone Config

Which fields go into the work-zone export file that your state's work-zone reporting reads (System & Maintenance; only when work zones are tracked).

The screenshot displays the 'Work zone' configuration page. At the top, there's a navigation bar with tabs: Operations, Data Rules, Forms & Integration, Access & Workflows, and System & Maintenance. Below this, the 'Work zone' section is active, showing a 'Work zone tracking' toggle set to 'on'. A URL 'GET /api/reports/workzone-export' is displayed, along with buttons for 'Copy URL', 'Test download CSV', and a filter for '67 export fields...'. The main content area is divided into three columns: 'General & case' (2/13), 'Location' (4/30), and 'Crash classification' (2/24). Each column contains a list of fields with checkboxes. At the bottom, there's a status bar showing 'Active export fields: 8 / 67 selected', a 'Saved' button, and a 'Save work zone config' button.

Work Zone Config

- Tick each field to include; **Select all** / **Clear all**; search to narrow the list.
- **Test download CSV** - the export as it would be now. **Copy URL** - the export's address, for the reporting system to fetch.
- **Save work zone config**, **Discard unsaved changes**, **Reset to defaults**.
- **Work zone tracking** is switched on and off in System Settings.

27. Walkthroughs

The earlier chapters describe each screen. This chapter puts them together: first a working day for each role, then the situations that come up most, from the moment the report arrives to the moment it's filed. Each step names the chapter with the detail.

27.1 A day as a Reviewer

1. Sign in and click **Validation** (chapter 4). Check the count: how many reports are waiting, and whether any priority labels are near the top.
2. If a supervisor has asked you to help with one county or dates, set the filter and click **Lock** so it stays for the day.
3. Click **Work Next Case (FIFO)**. The next report opens, assigned to you (chapter 5).
 - If an amber **Amended report** box shows, click each changed-field button and check only those fields.
 - Otherwise work down the list with **Show only needs attention** on: for each field, compare the report image with **Officer entered** and the **AI proposal**, then **use** the suggestion, change the box, or leave the officer's value.
 - Clear each red flag: use a value, change the field, or **acknowledge** it.
 - Fix every **Must fix** rule problem; look at each **Check**.
4. Click **Mark validation complete**. If it's refused, the screen takes you to the first thing to fix - fix it and click again.
5. You're back in the queue. Click **Work Next Case (FIFO)** again.
6. If a report can't be finished - it covers two crashes, looks like a duplicate, needs the officer to amend it - click **Route to management**, say what's wrong, and send it (chapter 5.7).
7. When a speech bubble shows on a queue row, management has answered. Open it, click **Messages**, read the answer and carry on.
8. Before a break or the end of the day, click **Save progress** on a report you're part-way through. It stays yours until you come back. Click **Unlock** only if someone else should take it (save first).
9. Check **My dashboard** for your own counts if you want to (chapter 15).

27.2 A day as a Mapper

1. Click **Location** (chapter 6). Reports appear here as soon as the pre-pass is done - you don't wait for Validation.
2. Click **Work Next Case (FIFO)**.
3. Look at the officer's point on the map against the report's description and diagram. Drag the point if it's wrong.
4. Click **Snap & Derive (Map It)**. Check the route, reference post and road details it found.
5. If it couldn't resolve the point, enter the route and reference post by hand, or queue the report for snapping later.
6. Check the remaining location fields and click **Complete Location Lane**.
7. The report goes to the Vault by itself if Validation is already done; otherwise it waits for Validation.

27.3 A day as a Transcriber

1. Click **Manual entry** (chapter 7). New scans are listed by when they arrived.
2. Click **Work Next Case (FIFO)**, or **Open** one scan.
3. Answer the setup questions from the paper - report type, how many vehicles, non-motorists and property-damage items, occupants, any fatality - and click **Start transcribing**.
4. Before keying it all, fill the three **Check for a possible match** boxes (county, crash date, a last name) and click the button. If it finds the same crash, click **View case**, and if it's the same, **This is the same crash - pull its data**; then **Agree** or change each field.
5. Otherwise key the report field by field from the image on the left. What you type is the record.
6. If you find a vehicle or person the setup missed, use the **Add / Remove** bar.
7. Click **Mark validation complete**.
8. When a report is held for a match decision, work it in **Intake matching** (chapter 8), if you have that permission.

27.4 A day at the front desk

1. A caller asks for a crash report. Click **Search** (chapter 11).
2. Search by what they know: the crash key, the date or dates, the county, a name (exact or sounds-like), the agency or the severity.
3. Open the right case. Its documents are listed with when each arrived and how.
4. Type the requester's email address and click **Send** beside the document they need.
5. Driver's reports are only listed if you have permission to see them.

27.5 A day as a Management Resolver

1. Click **Management** (chapter 14). Look at the three counts: in management, on hold, with the System Admin.
2. Click **Work next case (FIFO)**, or **Resolve** on a row, and **Assign to me**.
3. Read the **Discussion** and look at the report.
4. Decide:
 - Staff only needed an answer - write it and **Answer and send back**.
 - The report needs a lane finished - **Work >>** on that lane, or **Return to workflow**.
 - It covers two crashes - **Split**. It's the same crash as another case - **Merge**. It shouldn't be worked - **Delete**.
 - Waiting on an agency for weeks - **Move to Hold**.
 - Only a System Admin can deal with it - **Send to System Admin**.
5. When both lanes are done and **0 blocking** shows, **Send to Vault**.
6. Check the time-in-queue report for anything that has waited too long.

27.6 A day as a supervisor

1. Open your supervisor dashboard (chapter 15). Set the date range - **7 days**, **30 days**, **YTD**, or **From / To**.

2. Look at **Team velocity**: reports worked, edits, and how often each person accepted the AI's suggestion.
3. Check the roster: who is on your team and who is assigned where.
4. Download the tables as CSV or Excel for your own reports, or set up a **Scheduled report** to arrive by email.
5. If someone is away and holds reports, ask a System Admin to release their claims from the Doctor screen.

27.7 A new staff member

1. The person asks for access and completes your agency's paperwork.
2. A System Admin opens **Access Administration** (chapter 18), types the person's login (for example first.last) and display name, and clicks **+ Add User**.
3. **Edit Roles** - choose their role (for example Reviewer). Add any single permission they need beyond it.
4. If they work particular counties, add them to that **county group** (chapter 18). A Local Admin or Manager can then assign them to a supervisor from the Local Admin dashboard.
5. Tell them they're set up. They sign in with their normal work login - there's no separate Refinery password.
6. For a long leave, switch their status off to pause them; when they leave, delete the account. The Refinery won't let you remove the last full administrator.

27.8 An amended report arrives

An agency sends a corrected version of a report already on file.

1. The Refinery recognizes it by the same agency, agency case number and county, and files it in the same case as an **amendment**. The earlier report is kept, marked superseded.
2. The AI pre-pass runs on it and it enters both queues with **Work Type: Amended**.
3. The reviewer sees the amber **Amended report** box with a button per changed field and checks only those.
4. If the case was already in the Vault, it's worked again and re-filed when both lanes are done; the Vault holds the latest approved version.

27.9 A driver's own report arrives

1. If the driver's licence number, county and exact crash date match a case already on file, it's filed into that case automatically, as a **companion** beside the police report (which stays primary).
2. If it only looks like a match (county, date within a day, a similar name), it's held in **Intake matching** for a person to decide.
3. Otherwise it starts a new case, with **Work Type: Driver**.
4. It's never in the Public DB when your state treats driver's reports as confidential, and only people with permission see it in Search.

27.10 A fatal crash

1. The report is coded fatal. The Fatal priority class puts it at the top of both queues.
2. At the point your state chose (first received, validation complete, or both lanes complete), it enters the FARS work queue (chapter 13).
3. The FARS analyst matches it to their pre-report, codes it, and marks it transmitted - or, in FARS Manifest if your state uses it.
4. If the analyst finds the severity is wrong, they request a **severity change**. It goes to management, who approve it (back to Validation to re-code) or reject it with a reason.

27.11 One report, two crashes

1. The reviewer sees the report covers two separate crashes and routes it to management with that message.
2. The manager opens it, chooses **Split** and gives the reason.
3. They choose **Split into 2**, put each vehicle, person and property item in the right case, preview, and execute.
4. Each resulting case has its own crash key (the first keeps the original) and goes back through the pre-pass and Validation, assigned to the reviewer who routed it.

27.12 Two cases, one crash

1. The reviewer finds a second case that is the same crash (for example two agencies each filed a report) and routes it to management.
2. The manager chooses **Merge**, searches for the other case, picks it and compares the fields.
3. They tick the items to bring over (leaving plain duplicates unticked) and merge.
4. The kept case goes back through the pre-pass and Validation; the other is retired - kept, visible in the case view, out of the queues and the Vault.

27.13 A finished case needs correcting

1. The usual route is the agency sending an amended report: it's worked as in 8 above, and the Vault then holds the newer approved version.
2. A report let through with a waived rule can be taken back by a System Admin: **Waived Reports, Pull back...**, with a reason. It goes to the Management queue and the waiver is lifted.
3. The manager returns it to the workflow; staff correct it and complete the lanes again. Any legacy tables keep the last approved data until the new version is approved.

27.14 A court order seals a case

1. Someone with the Purge public record permission opens **Public DB Purge** (chapter 21) and finds the case's public copy.
2. **Purge...**, then for the Hub/Vault record choose **Hard-delete it**.
3. Type the court order reference as the reason, tick the confirmation and **Confirm permanent purge**.

4. The public copy and the case are gone everywhere, including every row in any legacy tables. The case opens nowhere.
5. **Purge history** keeps who did it, when and why - never the content.

27.15 A report the AI couldn't process

1. The report appears in **AI failures** (chapter 9) instead of the queues, with what went wrong.
2. The System Admin opens **Triage**, reads the reason, and clicks **Retry AI pre-pass** (if the AI is available) or **Bypass AI & send to manual entry**.
3. Bypassed reports are worked without suggestions. Nothing is lost.

28. Troubleshooting

Most problems are one of a few things: a permission you don't have, a report that's somewhere other than your queue, or someone else holding it. Find the symptom below.

28.1 Signing in and access

Symptom	Why	What to do
You don't have access to the Refinery. Ask your administrator.	Your account hasn't been created, has no role, or is paused.	Ask your System Admin. Accounts are created by an administrator - signing in doesn't create one.
A link or Home tile you expect isn't there.	Each link needs a permission. Screens you can't use aren't shown.	Ask your Local Admin or System Admin for the role or single permission you need (Reference chapter, Permissions).
A screen you could use yesterday is gone.	Your role or a permission was changed, or you were paused.	Ask your administrator.
The bulk user import switch is off again.	It turns itself off after every import and after an hour unused, so it can't be left open.	Switch it on again for the next import.

28.2 A report isn't where you expect

A report leaves the work queues for good reasons. Open the case (from **Cases** or **Search**) to see its status, or check these places:

Where it is	How you'd know	What to do
Held for a match decision	It has no crash key yet. It's in Intake matching.	Someone with Reconcile intake decides (chapter 8).
Waiting on the AI	It's in AI failures, or the pre-pass hasn't finished.	A System Admin retries or sends it to manual entry (chapter 9).
Your lane is complete	The case page shows the lane done. It doesn't open from the queue.	If it needs more work, route it to management.
With management	The case page shows status 300.	Wait for the answer; it comes back to whoever sent it.
Replaced	The report shows superseded on the case page.	Work the case's current report instead.
Merged	The case shows as merged into another.	Open the kept case.
Deleted	Only a System Admin sees it, marked Deleted .	A System Admin can restore a soft-deleted case from Records .
In your county group's filter	You're in a county group and the report is outside it.	Ask your administrator, or a colleague whose group includes it.

Where it is	How you'd know	What to do
Filtered out	Your filter (perhaps Locked) hides it.	Clear or unlock the filter.

28.3 Working a report

Symptom	Why	What to do
Everything is grey; Save and Complete are off.	Someone else holds the report. The banner names them.	Reach them by your usual means, or wait until they unlock it.
Work Next Case says everyone's busy.	Every report in your part of the queue is held by someone.	Try again later, or open a report from the list.
Mark validation complete is refused.	A required field is blank, a value can't be real, a Must fix rule remains, an AI flag is unresolved, or the report was replaced.	The message says which, and the screen jumps to the first one. Your typing was saved as a draft.
A rule problem won't go away.	It involves another field - maybe on another tab, or on the Location lane.	Follow its link to the other field. A Location-lane field is fixed by the Location team.
A rule problem is right as filed.	The data really is unusual.	A Check can be left. A Must fix that's genuinely right: route to management - a System Admin can waive it for this report.
The highlight box sits beside the field.	The paper was scanned a little crooked.	Line up this page and nudge the box. The Refinery remembers it.
The report image is faint or dark.	A poor scan.	Try Scan : inverted, boosted contrast or grayscale.
The report image has gone.	It's popped out into its own window, possibly on another screen.	Find the window, or untick Pop out .
You lost your place.		Turn on Reading guide , or Magnify: full .
A date you typed didn't stick.	A date box only takes a whole date.	Type the full date, or pick it from the calendar.
X just marked this approved - reload to see it.	Someone decided the same work-zone report while you had it open.	Reload the page.

28.4 Location

Symptom	Why	What to do
Not auto-resolved - ...	The point isn't near a road in the road network, or the network isn't available.	Enter the route and reference post by hand, or queue it to be snapped later.

Symptom	Why	What to do
Point moved since the last "Map it"	You moved the point after snapping.	Click Snap & Derive again.
The map shows no imagery.	The map service can't be reached right now.	The roads and your point still work; try the other base map, or later.
Complete Location Lane is refused.	A required location field is blank or wrong.	The message names it.

28.5 Finding and sending

Symptom	Why	What to do
Search says Date range narrowed to ...	Your System Admin sets the longest date range one search may cover (30 days unless changed); a wider range is cut down to it.	Search the rest of the range separately, or search by crash key.
A name search finds nothing.	Exact match needs the exact spelling.	Try Sounds like .
A driver's report isn't listed.	You don't have permission to see driver's reports.	Ask your administrator if your job needs it.
... isn't an email address.	The box takes one plain address.	Type one address, like name@example.com.
"From" is after "To" - swap them.	The dates are the wrong way round.	Swap them.
Cases shows fewer cases than you expect.	It lists the cases opened in the date range you typed.	Widen the range.

28.6 Dashboards and reports

Symptom	Why	What to do
A table is empty.	Nothing in the date range, or no one on your team yet.	Widen the range; check the roster.
Your own work isn't in your team's table.	Your own activity is shown separately, under Your own activity .	
Numbers differ between two screens.	They cover different date ranges, or one counts reports and the other edits.	Set the same range and compare like with like.

28.7 For System Admins

When something isn't working, start with the **Doctor** (chapter 20):

1. Click **Run Full Diagnostic Battery**. Each check says PASS, INFO, WARN or FAIL, and **Details** says what to do.
2. For one report that isn't moving, paste its crash key or id into **Stuck Record Autopsy**.
3. Use the safe fixes offered: sweep the intake folders, re-queue a report for the pre-pass, clear a claim, release idle claims.
4. A report whose pre-pass failed is dealt with in **AI failures**.

Symptom	Where to look
Reports aren't arriving.	Doctor: the intake checks. Intake : the drop folder, the endpoints and their keys, and Sweep All Intake Directories Now .
Reports arrive but don't reach the queues.	Doctor: AI pre-pass and pre-pass backlog. AI failures . Intake matching .
Reports finish both lanes but don't reach the Vault.	The case in Management: Rules blocking the Vault .
Legacy tables aren't updating.	Legacy output : the target connection, Push progress , and the mapping.
The review screens' boxes don't line up with a form.	Form calibration for that form.
A field is missing from the review screens.	Field definitions : is it hidden, or on the other lane?

Nothing is lost: The official report is never changed, every edit is kept in the audit trail, and a replaced report is kept in its case. When in doubt, route to management rather than delete.

29. Quick reference

29.1 Permissions

Every permission, what it allows, and which standard roles hold it. The Administrator role holds every permission and isn't repeated below. Any permission can be given to one person with a per-user override.

Permission	Allows	Standard roles
Review	The Validation queue and screen, Cases, Work zone.	Reviewer, Approver, Escalator, Data Supervisor, Local Admin, Manager
Location	The Location queue and screen.	Mapper, Location Supervisor, Local Admin, Manager
Transcribe	Manual entry.	Transcriber
Approve, Escalate	Reserved - not yet enforced; every Reviewer can finish and route.	Approver / Escalator, Local Admin, Manager
Reconcile intake	Intake matching.	Transcriber, Management Resolver, Local Admin, Manager
Manage escalations	The Management worklist and resolving cases.	Management Resolver
FARS	The FARS screen (and FARS Manifest's access).	FARS Analyst
Search	Front-desk Search and sending documents.	Front Desk
View driver reports	See confidential driver reports in Search and case documents.	(none - granted individually)
Annotate	Draw notes on report images.	Every standard role
Run reports	Metrics and reports.	Report Viewer, Local Admin, Manager
View individual dashboard	My dashboard.	Every hands-on role
View Data / Location Supervisor dashboard	The supervisor dashboards.	Data Supervisor / Location Supervisor
Local Admin	The Local Admin dashboard and staff assignment.	Local Admin, Manager
Assign Local Admin role	Give or take away the Local Admin role.	Manager
View management queue age	The management time-in-queue report (anyone who works management sees it already).	(none - granted individually)
Manage intake	The Intake screen.	Local Admin, Manager
Reconcile AI failures	AI pre-pass failures.	(Administrator)

Permission	Allows	Standard roles
Administer	Access administration, the System Admin dashboard, Doctor, Learning, Sent to Admin, Waived Reports.	(Administrator)
Manage record lifecycle	Records: delete and restore.	(Administrator)
Purge public record	Public DB purge.	(Administrator)
Manage public fields	Public DB fields.	(Administrator)
Manage system settings	System Settings, FARS alcohol and drug mapping.	(Administrator)
Manage county groups	County groups.	(Administrator)
Manage business rules	Business rules.	(Administrator)
Manage MMUCC rules	MMUCC6 rules.	(Administrator)
Manage priority classes	Priority classes.	(Administrator)
Manage lookup values	Lookup values (code lists).	(Administrator)
Manage field definitions	Field definitions.	(Administrator)
Manage form calibration	Form calibration.	(Administrator)
Manage schema mapping	Schema mapping.	(Administrator)
Manage MMUCC mapping	MMUCC6 mapping studio, State-unique values.	(Administrator)
Manage NHTSA field selection	NHTSA fields.	(Administrator)
Manage legacy output	Legacy output.	(Administrator)
Manage work zone settings	Work Zone Config.	(Administrator)

29.2 Case status codes

A case's four status tracks, as shown on its page and sent to Legacy output.

Code	Workflow
100	Received
110	Held: possible match
120	Held: AI pre-pass failed
200	Ready for review
210	In progress
220	Validated, awaiting location
230	Located, awaiting validation
240	Held at the Vault gate
300	With management

Code	Workflow
400	Complete
410	Complete (corrected)
500	Rework
800	Superseded (a report, never a case)
810	Merged
850	Rejected
900	Withdrawn
910	Removed
920	Sealed

Code	Work zone / SPD / FARS
600	Not a work-zone crash
605	Work zone not tracked
610	Work zone: awaiting decision
620	Work zone: approved
630	Work zone: disapproved
645	SPD: not tracked
650	SPD: not flagged
655	SPD: possible, awaiting reviewer
660	SPD: confirmed
665	SPD: cleared
700	FARS: not fatal
710	FARS: in the queue
720	FARS: ready to transmit
730	FARS: severity change requested
740	FARS: dismissed
750	FARS: transmitted

29.3 Labels you'll see

Label	Where	Meaning
needs attention	Review / Location fields	Low-confidence suggestion, a flag, a rule problem or a blank required field.

Label	Where	Meaning
Must fix / Check / Waived	Rule problems	Blocks completion / a warning / waived by a System Admin.
changed	Review fields	Changed since the report this one amends.
used / acknowledged / reviewed	Review fields	You used the AI value / looked at a flag / agreed with a pulled value.
not given	Clearance time	The report had no clearance time.
(lock) Name	Queues	That person has the report open now.
editing / superseded / driver report (companion)	Report tabs, case page	The report you're on / replaced by a later one / a driver's report beside the police report.
New / Amended / Driver / Manual / Scanned	Queue Work Type	Why the report is in the queue.
Strong match	Intake matching	The name matched exactly.
Deleted	Cases	Withdrawn; only a System Admin sees it.
Open / Matched / Transmitted	FARS pre-reports	Not matched / bound to a crash / sent.
Needs work / Approved / Disapproved	Work zone	The work-zone decision.
High / Low	Queues, cases	Management priority.

29.4 Messages

Message	What to do
You don't have access to the Refinery. Ask your administrator.	Your account doesn't exist yet or has no roles.
Progress saved hh:mm:ss	Nothing - your draft is saved.
Required field(s) still blank: ...	Fill the named fields (the screen has switched to their tab).
Fix before completing: ...	Correct the named values or rule problems.
n field(s) still have an unresolved AI flag ...	Use the AI value, change the field, or acknowledge each flag.
X is working this record right now - nothing was saved.	Someone else holds it. Reach them, or wait until they unlock it.
... is complete for this report. If it needs more work, management pulls it back.	Route it to management if it needs changes.
This report was deleted. A System Admin can restore it ...	Ask a System Admin.
This report was replaced by a newer one or withdrawn ...	Open the case's current report.
"From" is after "To" - swap them.	Swap the dates.

Message	What to do
... isn't a real date/time / ... is in the future / ... isn't a distance	Correct the value.
Every case here is being worked by someone else right now.	Try again later, or pick a report from the list.
Not auto-resolved - ...	Enter the route and reference post by hand, or queue for snapping.
Point moved since the last "Map it" ...	Click Snap & Derive again.
... isn't an email address.	Type one plain email address.
X just marked this approved - reload to see it.	Someone decided while you had it open; reload.

29.5 Keyboard shortcuts

Where	Keys
Validation and Location field lists	Up / Down or j / k move between fields; Enter edits; y accepts the AI's suggestion.
Coded drop-downs	Type a code's digits, or the first letters of its label, to jump to it.
The loupe	Escape closes it.
Work zone decision	A approves, D disapproves.

29.6 Glossary

Term	Meaning
Case	Every report about one crash, filed together.
Crash key	The state's number for a case, made by the Refinery.
Report	One document about a crash: an officer's report, an amendment, a supplement, a driver's report.
Amendment	A later version of a report already filed (same agency, agency case number and county).
DR-41 / driver's report	A driver's own report of a crash. Confidential in most states.
Hub	The Refinery's working copy of every report.
Public DB	The public copy of each report's data, minus the fields left out.
Vault	The finished, validated records.
Pre-pass	The AI's one pass over a report before people see it.
Lane	The data (Validation) or map (Location) half of the work.
Snap	Moving a point onto the nearest road in the road network.
MIRE	Model Inventory of Roadway Elements - a road's own attributes.

Term	Meaning
Reference post / milepost	A distance along a route, for locating a crash.
MMUCC6	The national standard for crash data, 6th edition.
NHTSA	National Highway Traffic Safety Administration.
FARS	NHTSA's Fatality Analysis Reporting System.
SPD	State property damage.
Imaging system	Your state's long-term document store.
Not Stated (96)	The code for a coded field the report left blank.
Waiver	A System Admin letting one blocking rule through for one report, with a reason.
County group	A set of counties (and days of the month) a team works.
FIFO	First in, first out - always the oldest report of the highest priority.

30. Release notes and known limits

This manual describes the version of September 28, 2026. This chapter says plainly what is finished, what isn't yet, and what depends on how your state installs the Refinery.

30.1 In this version

- Intake of electronic reports, scanned paper reports (manual entry, and OCR when installed) and driver's reports, with intake matching and amendments.
- The AI pre-pass on every report, run on your own server with no network connection. It proposes; a person confirms every value.
- The Validation and Location lanes, worked in parallel, with live rule checks, locks and the Vault gate.
- Cases, Search, Work zone, FARS, Management (including split, merge, rework and sealing).
- Dashboards for each role, Metrics and scheduled reports.
- The administration screens in Part 6, including bulk user import, legacy output and the MMUCC6 export mapping.
- The FARS Manifest connection for the FARS analyst, including alcohol and drug results written back for every person.

30.2 Not finished yet

Item	Where it stands
Sign-in with your state's directory	The Refinery authorizes (roles and permissions live in the Refinery), and is built to let your state's directory authenticate. The connection to a particular state's sign-in is set up during installation and hasn't been done against a live directory yet.
Approve and Escalate permissions	Reserved. They're held by the Approver and Escalator roles but nothing checks them yet: any Reviewer can finish a report and send it to management.
Notifying a lock holder	The lock notice names who holds a report; reaching them is done outside the Refinery (email, chat). A message from inside the Refinery is a possible later addition.
Sending to NHTSA	The Refinery produces the MMUCC6 export; sending it to NHTSA is done outside the Refinery.
Document types for lab results	Lab blood-alcohol results are linked by staff; a separate document type for them isn't built.

30.3 Depends on your installation

Part	Notes
Imaging system	Documents are kept locally first and sent in the background. The connection to your state's imaging system is configured at installation and must be tested against it.

Part	Notes
Driver records and vehicle lookups	Driver-licence lookups need your state's DMV connection. Vehicle and carrier lookups use the federal vPIC and FMCSA services. Without them, those checks are skipped, not guessed.
OCR	Optional. Without it, scanned paper reports are keyed by hand through manual entry.
Road network (spot mapping)	Optional. Without it, crashes are located on the map and route details entered by hand.
Public DB and driver reports	Chosen when your state is set up: whether there is a Public DB, and whether driver's reports are accepted.
The AI model	A model file on your own server. Faster hardware (a GPU) means shorter waits for the pre-pass; nothing is ever sent to an outside AI service.

30.4 Getting help

- Every screen has [?] help next to what it explains.
- For access, ask your Local Admin or System Admin.
- A System Admin's **Doctor** screen shows the health of every part of the installation and is the first place to look when something isn't working.

31. Appendix A - Every field

The 304 fields of the record as shipped in the demonstration configuration, grouped the way the review screens group them. Your state's list is on the **Field Definitions** screen and may differ: states add, hide and relabel fields.

Column	Meaning
Field	The label people see.
Path	Its place in the record - what rules, mappings and exports refer to.
Kind	Text, Coded (chosen from a code list), Date, Yes/no or Derived (worked out by the Refinery).
Lane	Validation or Location - who works it.
List	Yes if it has a code list (a drop-down).

Repeating parts: Vehicle, driver, occupant, non-motorist, property and witness fields repeat once per item on the report - Vehicle 1, Vehicle 2 and so on.

31.1 General and case (13)

Field	Path	Kind	Lane	List	
Agency Case Number	general.agencyCaseNumber	Text	Validation		
Agency Id	general.agencyId	Text	Validation		
Crash Date Time	general.crashDateTime	Text	Validation		
Crash Day	general.crashDay	Text	Validation		
Crash Report Type	general.crashReportType	Text	Validation		
Local Id Or District	general.localIdOrDistrict	Text	Validation		
Number Of Fatalities	general.numberOfFatalities	Text	Validation		
Number Of Motorists	general.numberOfMotorists	Text	Validation		
Number Of Non Fatally Injured	general.numberOfNonFatallyInjured	Text	Validation		
Number Of Non Motorists	general.numberOfNonMotorists	Text	Validation		
Report Status	general.reportStatus	Text	Validation		
Submitting Agency	general.submittingAgency	Text	Validation		
Vehicles Involved Count	general.vehiclesInvolvedCount	Text	Validation		

31.2 Crash classification (24)

Field	Path	Kind	Lane	List	
Alcohol Involved	classification.alcoholInvolved	Text	Validation		
Contributing Circumstances - Roadway Environment	classification.contributingCircumstancesRoadwayEnvironment	Coded	Validation	Yes	
Crash Severity	classification.crashSeverity	Coded	Validation	Yes	
Drug Involved	classification.drugInvolved	Text	Validation		
Overall Intersection Geometry	classification.intersectionGeometry	Coded	Location	Yes	
Overall Traffic Control Device	classification.intersectionTrafficControlDevice	Coded	Location	Yes	
Involve State DOT Property	classification.involveStateDOTProperty	Text	Location		
Light Condition	classification.lightCondition	Coded	Validation	Yes	
Manner of Crash / Collision Impact	classification.mannerOfCrashImpact	Coded	Location	Yes	
Type of Intersection - Number of Approaches	classification.numberOfMainlineApproaches	Coded	Location	Yes	
Roadway Clearance Time	classification.roadwayClearanceTime	Text	Validation		
Roadway Surface (material)	classification.roadwaySurface	Coded	Validation	Yes	
Roadway Surface Condition	classification.roadwaySurfaceCondition	Coded	Validation	Yes	
School Bus Related	classification.schoolBusRelated	Coded	Validation	Yes	
Secondary Crash	classification.secondaryCrash	Text	Validation		
Specific Junction Location	classification.specificLocation	Coded	Location	Yes	
Temperature	classification.temperature	Text	Validation		
Weather Conditions	classification.weatherCondition	Coded	Validation	Yes	
Relation to Junction - Within Interchange Area	classification.withinInterchangeArea	Coded	Location	Yes	
Work Zone - Law Enforcement Present	classification.workZoneLawEnforcementPresent	Coded	Validation	Yes	
Work Zone - Location of the Crash	classification.workZoneLocation	Coded	Validation	Yes	
Work Zone - In or Near / Related to a Work Zone	classification.workZoneRelated	Coded	Validation	Yes	
Work Zone - Type of Work Zone	classification.workZoneType	Coded	Validation	Yes	

Work Zone - Workers Present	classification.workZoneWorkersPresent	Coded	Validation	Yes	
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31.3 Location (30)

Field	Path	Kind	Lane	List	
City	location.cityCensusId	Coded	Location	Yes	
County	location.countyId	Coded	Location	Yes	
Derived Milepost	location.derivedMilepost	Text	Location (map)		
Derived Route	location.derivedRoute	Text	Location (map)		
Highway Number	location.highwayNumber	Text	Location		
Intersecting Roadway	location.intersectingRoadway	Text	Location		
Latitude	location.latitude	Text	Location (map)		
Location Agreed With Officer	location.locationAgreedWithOfficer	Text	Location (map)		
Location Description	location.locationDescription	Text	Location (map)		
Longitude	location.longitude	Text	Location (map)		
Milepost Direction	location.milepostDirection	Text	Location		
Milepost Distance Feet	location.milepostDistanceFeet	Text	Location		
Mire	location.mire	Text	Location (map)		
Nearest City Or Town	location.nearestCityOrTown	Text	Location		
Nearest Landmark	location.nearestLandmark	Text	Location		
Not At Intersection Direction	location.notAtIntersectionDirection	Text	Location		
Not At Intersection Distance	location.notAtIntersectionDistance	Text	Location		
Not At Intersection Unit	location.notAtIntersectionUnit	Text	Location		
On Private Property	location.onPrivateProperty	Text	Location		
Outside City Limits Direction	location.outsideCityLimitsDirection	Text	Location		
Outside City Limits Direction2	location.outsideCityLimitsDirection2	Text	Location		

Field	Path	Kind	Lane	List	
Outside City Limits Miles	location.outsideCityLimitsMiles	Text	Location		
Outside City Limits Miles2	location.outsideCityLimitsMiles2	Text	Location		
Reference Post Number	location.referencePostNumber	Text	Location		
Resolution Method	location.resolutionMethod	Text	Location (map)		
Reviewed Latitude	location.reviewedLatitude	Text	Location (map)		
Reviewed Longitude	location.reviewedLongitude	Text	Location (map)		
Roadway Trafficway	location.roadwayTrafficway	Text	Location		
Snap Distance Feet	location.snapDistanceFeet	Text	Location (map)		
Street Name Or Highway Number	location.streetNameOrHighwayNumber	Text	Location		

31.4 Drivers (52)

Field	Path	Kind	Lane	List	
Driver Actions at Time of Crash	vehicles.driver.actionAtTimeOfCrash	Coded	Validation	Yes	
Alcohol Interlock Present	vehicles.driver.alcoholInterlockPresent	Coded	Validation	Yes	
Alcohol Suspected	vehicles.driver.alcoholSuspected	Coded	Validation	Yes	
Alcohol Test Status	vehicles.driver.alcoholTestStatus	Coded	Validation	Yes	
Alcohol Test Type	vehicles.driver.alcoholTestType	Coded	Validation	Yes	
Attempted Avoidance Maneuver	vehicles.driver.attemptedAvoidanceManeuver	Coded	Validation	Yes	
Blood Alcohol Level	vehicles.driver.bloodAlcoholLevel	Text	Validation		
Alcohol Test Result	vehicles.driver.bloodAlcoholResult	Coded	Validation	Yes	
Citation Number	vehicles.driver.citationNumber	Text	Validation		
Citation	vehicles.driver.citationStatus	Text	Validation		
Driver Distracted By - Action	vehicles.driver.distractedAction	Coded	Validation	Yes	

Field	Path	Kind	Lane	List	
Driver Distracted By - Source	vehicles.driver.distractedSource	Coded	Validation	Yes	
Dmv Exclusion Code	vehicles.driver.dmvExclusionCode	Text	Validation		
Drugs Suspected	vehicles.driver.drugSuspected	Coded	Validation	Yes	
Drug Test Result	vehicles.driver.drugTestResult	Coded	Validation	Yes	
Drug Test Status	vehicles.driver.drugTestStatus	Coded	Validation	Yes	
Drug Test Type	vehicles.driver.drugTestType	Coded	Validation	Yes	
Drug Type	vehicles.driver.drugType	Coded	Validation	Yes	
Commercial Driver License (CDL)	vehicles.driver.isCommercialLicense	Coded	Validation	Yes	
Driver License Class	vehicles.driver.licenseClassCode	Coded	Validation	Yes	
Driver License Endorsements	vehicles.driver.licenseEndorsements	Coded	Validation	Yes	
Driver License Jurisdiction	vehicles.driver.licenseJurisdiction	Coded	Validation	Yes	
License Number	vehicles.driver.licenseNumber	Text	Validation		
Driver License Restrictions	vehicles.driver.licenseRestrictions	Coded	Validation	Yes	
License State	vehicles.driver.licenseState	Text	Validation		
Driver License Status	vehicles.driver.licenseStatus	Coded	Validation	Yes	
Driver License Status - Type Applicable for this Person	vehicles.driver.licenseStatusTypeForPerson	Coded	Validation	Yes	
Driver License Type	vehicles.driver.licenseType	Coded	Validation	Yes	
Driver Condition at Time of Crash	vehicles.driver.operatorCondition	Coded	Validation	Yes	
Address	vehicles.driver.person.address	Address Object	Validation		
Address Line	vehicles.driver.person.address.addressLine	Text	Validation		
City	vehicles.driver.person.address.city	Text	Validation		
Postal Code	vehicles.driver.person.address.postalCode	Text	Validation		
State	vehicles.driver.person.address.state	Text	Validation		

Field	Path	Kind	Lane	List	
Birth Date	vehicles.driver.person.birthDate	Text	Validation		
P13. Injury Area	vehicles.driver.person.bodyRegionInjured	Coded	Validation	Yes	
EMS Service	vehicles.driver.person.emsService	Text	Validation		
P1. Incident Responder	vehicles.driver.person.incidentResponder	Coded	Validation	Yes	
P2. Type of Incident Responder	vehicles.driver.person.incidentResponderType	Coded	Validation	Yes	
Injury Severity	vehicles.driver.person.injurySeverity	Text	Validation		
P12. Injury Status	vehicles.driver.person.injuryStatus	Coded	Validation	Yes	
Medical Facility	vehicles.driver.person.medicalFacility	Text	Validation		
Name	vehicles.driver.person.name	NameObject	Validation		
First Name	vehicles.driver.person.name.firstName	Text	Validation		
Last Name	vehicles.driver.person.name.lastName	Text	Validation		
Middle Name	vehicles.driver.person.name.middleName	Text	Validation		
P3. Occupant of Motor Vehicle	vehicles.driver.person.personType	Coded	Validation	Yes	
Sex	vehicles.driver.person.sex	Coded	Validation	Yes	
Telephone	vehicles.driver.person.telephone	Text	Validation		
P14. Source of Transport to First Medical Facility	vehicles.driver.person.transportToMedicalFacility	Coded	Validation	Yes	
Pre-Impact Stability	vehicles.driver.preImpactStability	Coded	Validation	Yes	
Speeding Related	vehicles.driver.speedingRelated	Coded	Validation	Yes	

31.5 Occupants (30)

Field	Path	Kind	Lane	List	
P10. Air Bag Deployed	vehicles.occupants.airbagDeployed	Coded	Validation	Yes	

Field	Path	Kind	Lane	List	
P7. Ejection	vehicles.occupants.ejected	Coded	Validation	Yes	
Address	vehicles.occupants.person.address	Address Object	Validation		
Address Line	vehicles.occupants.person.address.addressLine	Text	Validation		
City	vehicles.occupants.person.address.city	Text	Validation		
Postal Code	vehicles.occupants.person.address.postalCode	Text	Validation		
State	vehicles.occupants.person.address.state	Text	Validation		
Birth Date	vehicles.occupants.person.birthDate	Text	Validation		
P13. Injury Area	vehicles.occupants.person.bodyRegionInjured	Coded	Validation	Yes	
EMS Service	vehicles.occupants.person.emsService	Text	Validation		
P1. Incident Responder	vehicles.occupants.person.incidentResponder	Coded	Validation	Yes	
P2. Type of Incident Responder	vehicles.occupants.person.incidentResponderType	Coded	Validation	Yes	
Injury Severity	vehicles.occupants.person.injurySeverity	Text	Validation		
P12. Injury Status	vehicles.occupants.person.injuryStatus	Coded	Validation	Yes	
Medical Facility	vehicles.occupants.person.medicalFacility	Text	Validation		
Name	vehicles.occupants.person.name	Name Object	Validation		
First Name	vehicles.occupants.person.name.firstName	Text	Validation		
Last Name	vehicles.occupants.person.name.lastName	Text	Validation		
Middle Name	vehicles.occupants.person.name.middleName	Text	Validation		
P3. Occupant of Motor Vehicle	vehicles.occupants.person.personType	Coded	Validation	Yes	
Sex	vehicles.occupants.person.sex	Coded	Validation	Yes	
Telephone	vehicles.occupants.person.telephone	Text	Validation		

Field	Path	Kind	Lane	List	
P14. Source of Transport to First Medical Facility	vehicles.occupants.person.transportedToMedicalFacility	Coded	Validation	Yes	
Reference Number	vehicles.occupants.referenceNumber	Text	Validation		
P9. Any Indication of Improper Restraint Use	vehicles.occupants.restraintIndicationOfMisuse	Coded	Validation	Yes	
P8. Restraint System / Helmet Use	vehicles.occupants.restraintUse	Coded	Validation	Yes	
P11. School Bus Restraint Availability (excludes driver)	vehicles.occupants.schoolBusRestraintAvailability	Coded	Validation	Yes	
P6. Seating Position - Other Location	vehicles.occupants.seatingPositionOther	Coded	Validation	Yes	
P4. Seating Position - Row	vehicles.occupants.seatingPositionRow	Coded	Validation	Yes	
P5. Seating Position - Seat	vehicles.occupants.seatingPositionSeat	Coded	Validation	Yes	

31.6 Vehicles (85)

Field	Path	Kind	Lane	List	
Authorized Speed Limit	vehicles.authorizedSpeedLimit	Text	Validation		
Automation System Levels in Vehicle	vehicles.automationLevel	Coded	Validation	Yes	
Automation System Levels Engaged at Time of Crash	vehicles.automationLevelEngaged	Coded	Validation	Yes	
Automated Driving System(s) - System(s) in Vehicle	vehicles.automationSystemPresent	Coded	Validation	Yes	
Presence / Type of Bicycle Facility	vehicles.bicycleFacility	Coded	Validation	Yes	
Motor Vehicle Type Category - Body Type	vehicles.bodyStyle	Coded	Validation	Yes	
Cargo Body Type	vehicles.carrier.cargoBodyType	Coded	Validation	Yes	
Carrier Address	vehicles.carrier.carrierAddress	Text	Validation		
Carrier Name	vehicles.carrier.carrierName	Text	Validation		
Compliance With CDL Endorsement(s)	vehicles.carrier.cdlEndorsementCompliance	Coded	Validation	Yes	
CMV License Status	vehicles.carrier.cmvLicenseStatus	Coded	Validation	Yes	

Field	Path	Kind	Lane	List	
Escort / Pilot Vehicle Present	vehicles.carrier.escortPilotVehiclePresent	Coded	Validation	Yes	
Gross Vehicle Weight / Weight Rating	vehicles.carrier.grossWeightRating	Coded	Validation	Yes	
Hazardous Materials Released From a Cargo Compartment	vehicles.carrier.hazmatReleased	Coded	Validation	Yes	
Carrier Identification Type	vehicles.carrier.identificationType	Coded	Validation	Yes	
Special Sizing - Permitted	vehicles.carrier.permitted	Coded	Validation	Yes	
Special Sizing	vehicles.carrier.specialSizing	Coded	Validation	Yes	
Type of Carrier	vehicles.carrier.typeOfCarrier	Coded	Validation	Yes	
Us Dot Number	vehicles.carrier.usDotNumber	Text	Validation		
Vehicle Configuration	vehicles.carrier.vehicleConfiguration	Coded	Validation	Yes	
Color	vehicles.color	Text	Validation		
Vehicle Contributing Circumstance(s)	vehicles.contributingCircumstances	Coded	Validation	Yes	
Damaged Area(s)	vehicles.damagedArea	Coded	Validation	Yes	
Direction of Travel	vehicles.direction	Coded	Validation	Yes	
Driver Present	vehicles.driverPresent	Text	Validation		
Emergency Motor Vehicle Use	vehicles.emergencyUse	Coded	Validation	Yes	
Estimated Damage	vehicles.estimatedDamage	Text	Validation		
Extent of Damage	vehicles.extentOfDamage	Coded	Validation	Yes	
Sequence of Events — First Event	vehicles.firstHarmfulEvent	Coded	Location	Yes	
Form174 Completed	vehicles.form174Completed	Text	Validation		
Sequence of Events — Fourth Event	vehicles.fourthHarmfulEvent	Coded	Location	Yes	
Government Ownership	vehicles.governmentOwnership	Text	Validation		
Hazardous Materials (HM) Placard Displayed	vehicles.hazmatPlacardDisplayed	Coded	Validation	Yes	
Hit and Run	vehicles.hitAndRun	Coded	Validation	Yes	
Initial Contact Point	vehicles.impactPoint	Coded	Validation	Yes	
Insurance Company Code	vehicles.insuranceCompanyCode	Text	Validation		

Field	Path	Kind	Lane	List	
Insurance Company Name	vehicles.insuranceCompanyName	Text	Validation		
Insurance Coverage	vehicles.insuranceCoverage	Coded	Validation	Yes	
Insurance Policy Number	vehicles.insurancePolicyNumber	Text	Validation		
Vehicle Make	vehicles.make	Coded	Validation	Yes	
Vehicle Maneuver / Action	vehicles.maneuver	Coded	Validation	Yes	
Model	vehicles.model	Text	Validation		
Model Year	vehicles.modelYear	Text	Validation		
Most Harmful Event	vehicles.mostHarmfulEvent	Coded	Location	Yes	
Address	vehicles.owner.address	Address Object	Validation		
Address Line	vehicles.owner.address.addressLine	Text	Validation		
City	vehicles.owner.address.city	Text	Validation		
Postal Code	vehicles.owner.address.postalCode	Text	Validation		
State	vehicles.owner.address.state	Text	Validation		
Name	vehicles.owner.name	Name Object	Validation		
First Name	vehicles.owner.name.firstName	Text	Validation		
Last Name	vehicles.owner.name.lastName	Text	Validation		
Middle Name	vehicles.owner.name.middleName	Text	Validation		
Organization Name	vehicles.owner.organizationName	Text	Validation		
Telephone	vehicles.owner.telephone	Text	Validation		
Pavement Markings - Centerline Presence/Type	vehicles.pavementMarkingCenterline	Coded	Validation	Yes	
Pavement Markings - Edgeline Presence/Type	vehicles.pavementMarkingEdgeline	Coded	Validation	Yes	
Pavement Markings - Lane Line Markings	vehicles.pavementMarkingLane	Coded	Validation	Yes	
Plate Expiration	vehicles.plateExpiration	Text	Validation		
Plate Number	vehicles.plateNumber	Text	Validation		
Plate Registration State	vehicles.plateRegistrationState	Text	Validation		
Plate Registration Year	vehicles.plateRegistrationYear	Text	Validation		
Plate State	vehicles.plateState	Text	Validation		

Field	Path	Kind	Lane	List	
Plate Type	vehicles.plateType	Text	Validation		
Reference Number	vehicles.referenceNumber	Text	Validation		
Road Name At Movement	vehicles.roadNameAtMovement	Text	Validation		
Grade / Roadway Alignment - Grade	vehicles.roadwayGrade	Coded	Validation	Yes	
Grade / Roadway Alignment - Horizontal Alignment	vehicles.roadwayHorizontalAlignment	Coded	Validation	Yes	
Roadway Surface	vehicles.roadwaySurface	Text	Validation		
Sequence of Events — Second Event	vehicles.secondHarmfulEvent	Coded	Location	Yes	
Signed Bicycle Route	vehicles.signedBicycleRoute	Coded	Validation	Yes	
Special Function of Motor Vehicle in Transport	vehicles.specialFunction	Coded	Validation	Yes	
Sequence of Events — Third Event	vehicles.thirdHarmfulEvent	Coded	Location	Yes	
Total Auxiliary Lanes	vehicles.totalAuxiliaryLanes	Text	Validation		
Total Through Lanes	vehicles.totalThroughLanes	Text	Validation		
Traffic Control Device Working	vehicles.trafficControlDeviceWorking	Coded	Validation	Yes	
Traffic Control Device Type(s)	vehicles.trafficControlDevices	Coded	Validation	Yes	
Trafficway Description - Barrier Type	vehicles.trafficwayBarrierType	Coded	Validation	Yes	
Trafficway Description - Divided	vehicles.trafficwayDivided	Coded	Validation	Yes	
Trafficway Description - Travel Directions	vehicles.trafficwayTravelDirections	Coded	Validation	Yes	
Trailing Units	vehicles.trailingUnits	Text	Validation		
Motor Vehicle Unit Type	vehicles.unitType	Coded	Validation	Yes	
Vehicle Totaled	vehicles.vehicleTotaled	Text	Validation		
Towed Due to Disabling Damage	vehicles.vehicleTowed	Coded	Validation	Yes	
Vin	vehicles.vin	Text	Validation		

31.7 Non-motorists (33)

Field	Path	Kind	Lane	List	
Non-Motorist Action / Circumstance Prior to Crash	nonMotorists.action	Coded	Validation	Yes	
Non-Motorist Condition at Time of Crash	nonMotorists.condition	Coded	Validation	Yes	
Non-Motorist Contributing Action(s) / Circumstance(s)	nonMotorists.contributingCircumstances	Coded	Validation	Yes	
Non-Motorist Distracted By - Action	nonMotorists.distractedAction	Coded	Validation	Yes	
Non-Motorist Distracted By - Source	nonMotorists.distractedSource	Coded	Validation	Yes	
Initial Point of Contact on Non-Motorist	nonMotorists.initialPointOfContact	Coded	Validation	Yes	
Non-Motorist Injury Status	nonMotorists.injuryStatus	Coded	Validation	Yes	
Non-Motorist Location at Time of Crash	nonMotorists.location	Coded	Validation	Yes	
Non-Motorist Origin / Destination	nonMotorists.originDestination	Coded	Validation	Yes	
Address	nonMotorists.person.address	Address Object	Validation		
Address Line	nonMotorists.person.address.addressLine	Text	Validation		
City	nonMotorists.person.address.city	Text	Validation		
Postal Code	nonMotorists.person.address.postalCode	Text	Validation		
State	nonMotorists.person.address.state	Text	Validation		
Birth Date	nonMotorists.person.birthDate	Text	Validation		
P13. Injury Area	nonMotorists.person.bodyRegionInjured	Coded	Validation	Yes	
EMS Service	nonMotorists.person.emsService	Text	Validation		
P1. Incident Responder	nonMotorists.person.incidentResponder	Coded	Validation	Yes	
P2. Type of Incident Responder	nonMotorists.person.incidentResponderType	Coded	Validation	Yes	
Injury Severity	nonMotorists.person.injurySeverity	Text	Validation		

Field	Path	Kind	Lane	List	
P12. Injury Status	nonMotorists.person.injuryStatus	Coded	Validation	Yes	
Medical Facility	nonMotorists.person.medicalFacility	Text	Validation		
Name	nonMotorists.person.name	NameObject	Validation		
First Name	nonMotorists.person.name.firstName	Text	Validation		
Last Name	nonMotorists.person.name.lastName	Text	Validation		
Middle Name	nonMotorists.person.name.middleName	Text	Validation		
P3. Occupant of Motor Vehicle	nonMotorists.person.personType	Coded	Validation	Yes	
Sex	nonMotorists.person.sex	Coded	Validation	Yes	
Telephone	nonMotorists.person.telephone	Text	Validation		
P14. Source of Transport to First Medical Facility	nonMotorists.person.transportedToMedicalFacility	Coded	Validation	Yes	
Reference Number	nonMotorists.referenceNumber	Text	Validation		
Non-Motorist Safety Equipment	nonMotorists.safetyEquipment	Coded	Validation	Yes	
Non-Motorist Type	nonMotorists.type	Coded	Validation	Yes	

31.8 Property damage (13)

Field	Path	Kind	Lane	List	
Estimated Cost	propertyDamage.estimatedCost	Text	Validation		
Object Damaged	propertyDamage.objectDamaged	Text	Validation		
Address	propertyDamage.owner.address	AddressObject	Validation		
Address Line	propertyDamage.owner.address.addressLine	Text	Validation		
City	propertyDamage.owner.address.city	Text	Validation		
Postal Code	propertyDamage.owner.address.postalCode	Text	Validation		
State	propertyDamage.owner.address.state	Text	Validation		

Field	Path	Kind	Lane	List	
Name	propertyDamage.owner.name	NameObject	Validation		
First Name	propertyDamage.owner.name.firstName	Text	Validation		
Last Name	propertyDamage.owner.name.lastName	Text	Validation		
Middle Name	propertyDamage.owner.name.middleName	Text	Validation		
Organization Name	propertyDamage.owner.organizationName	Text	Validation		
Telephone	propertyDamage.owner.telephone	Text	Validation		

31.9 Witnesses (10)

Field	Path	Kind	Lane	List	
Address	witnesses.address	Address Object	Validation		
Address Line	witnesses.address.addressLine	Text	Validation		
City	witnesses.address.city	Text	Validation		
Postal Code	witnesses.address.postalCode	Text	Validation		
State	witnesses.address.state	Text	Validation		
Name	witnesses.name	NameObject	Validation		
First Name	witnesses.name.firstName	Text	Validation		
Last Name	witnesses.name.lastName	Text	Validation		
Middle Name	witnesses.name.middleName	Text	Validation		
Witness Telephone	witnesses.telephone	Text	Validation		

31.10 Investigator (10)

Field	Path	Kind	Lane	List	
Agency Name	investigator.agencyName	Text	Validation		
Date Of Report	investigator.dateOfReport	Text	Validation		
Investigation Made At Scene	investigator.investigationMadeAtScene	Text	Validation		

Field	Path	Kind	Lane	List	
Investigator Name	investigator.investigatorName	NameObject	Validation		
First Name	investigator.investigatorName.firstName	Text	Validation		
Last Name	investigator.investigatorName.lastName	Text	Validation		
Middle Name	investigator.investigatorName.middleName	Text	Validation		
Officer Number	investigator.officerNumber	Text	Validation		
Photographs Taken	investigator.photographsTaken	Text	Validation		
Troop Team Beat	investigator.troopTeamBeat	Text	Validation		

31.11 Narrative (1)

Field	Path	Kind	Lane	List	
Narrative	narrative	Text	Validation		

31.12 Other (3)

Field	Path	Kind	Lane	List	
Crash Id	crashId	Text	Validation		
Form178 Completed	form178Completed	Text	Validation		
Form179 Completed	form179Completed	Text	Validation		

32. Appendix B - Every MMUCC6 check

Every report is checked against the 113 consistency checks of the national MMUCC6 standard, as well as your state's own business rules. A problem shows on the field it involves, in the words below, as soon as you leave the field.

- **Must fix** (91 checks, ids starting ER) - the report can't be completed until it's fixed, or a System Admin waives the check for that one report with a reason.
- **Check** (22 checks, ids starting WR) - usually a mistake but sometimes right. Look, then carry on.
- A System Admin can switch a check off for the whole state on the **MMUCC6 Rules** screen. Your state's own rules are on **Business Rules** and aren't listed here.

32.1 Must fix

Check	What it means and what to change
ER.002	The first thing hit was a non-motorist (pedestrian, cyclist...), but there's no non-motorist on the report. Add the non-motorist or fix the first harmful event.
ER.003	The first thing hit was another moving vehicle, but the manner of collision says it wasn't a collision between vehicles. Pick how the vehicles hit.
ER.004	The first thing hit was a parked vehicle, but no vehicle is marked parked. Fix one of them.
ER.005	A vehicle hit a non-motorist, but the non-motorist's details are missing. Fill in the non-motorist.
ER.006	The first thing hit wasn't another moving vehicle, so the manner of collision must say it wasn't a collision between vehicles.
ER.007	The first harmful event doesn't match anything in any vehicle's sequence of events. Make them agree.
ER.008	The first harmful event is unknown, so the manner of collision must be Unknown too.
ER.009	The crash is in a parking lane or zone, but it's also marked within an interchange. Fix one of them.
ER.010	It's marked not an intersection, but the relation to junction says intersection. Make them agree.
ER.011	An intersection type is picked, but the relation to junction doesn't say intersection. Make them agree.
ER.012	The relation to junction isn't an intersection, so the type of intersection must be Not an Intersection.
ER.013	The relation to junction says intersection, but no intersection type is picked. Pick the intersection type.
ER.014	The first thing hit was another moving vehicle, but fewer than two vehicles are marked in transport. Check each vehicle's unit type.
ER.015	The first thing hit was a parked vehicle, but there isn't both a parked vehicle and a moving one. Check each vehicle's unit type.
ER.016	The first thing hit was a working vehicle, but there isn't both a working vehicle and a moving one. Check each vehicle's unit type.
ER.017	A vehicle is marked in transport (moving), but what it was doing before the crash says parked. Fix one of them.

Check	What it means and what to change
ER.018	A vehicle is marked parked, but what it was doing before the crash isn't parked. Fix one of them.
ER.029	What the vehicle was doing before the crash says parked, but its unit type isn't parked. Fix one of them.
ER.027	The vehicle's body type is a bus, but it's marked not a bus. Fix one of them.
ER.028	The vehicle was on an emergency run, but its special use isn't an emergency vehicle. Fix one of them.
ER.030	Damaged areas says no damage, but extent of damage says there was damage. Make them agree.
ER.084	Extent of damage says no damage, but damaged areas lists damage. Make them agree.
ER.031	A vehicle hit a non-motorist, but there's no non-motorist on the report. Add the non-motorist or fix the sequence of events.
ER.032	A vehicle hit another moving vehicle, but no other vehicle is marked in transport. Check the unit types.
ER.033	A vehicle hit a parked vehicle, but no other vehicle is marked parked. Check the unit types.
ER.034	A vehicle hit a working vehicle, but no other vehicle is marked working. Check the unit types.
ER.035	The vehicle has only one event, so the most harmful event must be that same event.
ER.036	The vehicle crossed the centerline, but the road isn't coded as one with a centerline. Check trafficway flow and median barrier.
ER.037	The vehicle crossed the median, but the road isn't coded as one with a median. Check trafficway flow and median barrier.
ER.039	The most harmful event isn't in the vehicle's own sequence of events. Make them agree.
ER.040	The most harmful event isn't in the vehicle's own sequence of events. Make them agree.
ER.041	This person is a non-motorist, but their non-motorist details are missing. Fill them in.
ER.042	This person is riding in a moving vehicle, but that vehicle isn't marked in transport. Fix the person type or the vehicle's unit type.
ER.043	This person is in a vehicle that wasn't moving, but that vehicle is marked in transport. Fix the person type or the vehicle's unit type.
ER.044	This person was on a motorcycle, moped, ATV or snowmobile, so restraint use must be None Used or Not Applicable.
ER.045	This person used a seat belt or child seat, but they were on a motorcycle, moped, ATV or snowmobile. Fix the restraint or the vehicle type.
ER.046	This person was in a car, truck, van or bus, so helmet use must be Not Applicable.
ER.047	This person was on a motorcycle, moped, ATV or snowmobile, so helmet use can't be Not Applicable. Pick whether they wore one.
ER.048	A front air bag deployed, but this person wasn't in the front row. Fix the air bag or the seating position.
ER.049	This person was on a moped or 2-wheeled motorcycle, so ejection must be Not Applicable.
ER.050	Ejection is coded, but this person was riding on the outside of the vehicle. Fix the ejection or the seating position.

Check	What it means and what to change
ER.051	There was no driver, so attempted avoidance maneuver must say no driver too.
ER.052	The driver laid down a motorcycle, but the vehicle isn't a 2-wheeled motorcycle. Fix the maneuver or the vehicle type.
ER.053	The vehicle is a bus or motorcoach, so the cargo body type must be Bus.
ER.054	A non-motorist is marked for an improper pass, turn or merge, but they weren't riding anything. Fix the circumstance or the person type.
ER.055	A non-motorist is marked distracted, but their distraction says not distracted. Make them agree.
ER.056	A non-motorist was hit at an intersection, but the crash isn't coded at an intersection. Check the intersection fields.
ER.057	The non-motorist had no device, so they must be a plain pedestrian. Fix the device or the person type.
ER.058	This person is a plain pedestrian, so device type must be None.
ER.059	Device motorization is Not Applicable, but this person's type needs one. Fix the motorization or the person type.
ER.060	This person's device can't have a motor, so device motorization must be Not Applicable.
ER.061	The non-motorist type is unknown, so the device type must be unknown too.
ER.062	The device type is unknown, so the non-motorist type must be unknown too.
ER.063	The device is a bicycle, so the person type must be Bicyclist.
ER.064	This person is a bicyclist, so the device type must be Bicycle.
ER.065	The device is another kind of cycle, so the person type must be Other Cyclist.
ER.066	This person is an other cyclist, so the device type must be Other Cycle.
ER.067	The device is a ridden animal or rail vehicle, so the person type must be Occupant of a Non-Motor Vehicle Transport Device.
ER.068	This person rode a non-motor transport device, so the device type must be a ridden animal or rail vehicle.
ER.069	The device is a personal conveyance or mobility aid, so the person type must be Pedestrian on Personal Conveyance.
ER.070	This person was on a personal conveyance, so the device type must be a personal conveyance or mobility aid.
ER.071	This person wasn't transported, but an EMS agency or receiving hospital is filled in. Fix one of them.
ER.072	The vehicle has a DOT or MC number, so the type of motor carrier must be Interstate or Intrastate.
ER.073	A light vehicle not carrying hazmat must have cargo body type Not Applicable.
ER.074	A medium or heavy truck can't use the 10,000-lb-or-less cargo body type. Pick its real cargo body.
ER.075	A pickup over 10,000 lb must have cargo body type Other.
ER.076	A truck-tractor has no cargo body, so cargo body type must be No Cargo Body.
ER.077	The vehicle was towing another vehicle, so trailer body type must be Towed Vehicle.

Check	What it means and what to change
ER.078	The non-motorist was an incident responder at work, but their special function isn't a responder role. Fix one of them.
ER.079	The vehicle never hit another vehicle, so underride/override must be None or Not Applicable.
ER.080	Traffic control device says there were none, so device functioning must say No Controls too.
ER.081	Traffic control device shows a device (like a stop sign), but device functioning says No Controls. Pick how the device was working - e.g. Functioning Properly.
ER.082	The vehicle's first event wasn't a collision, so initial contact point must be Non-Collision.
ER.083	Initial contact point says Non-Collision, but the vehicle's first event was a collision. Fix one of them.
ER.085	Fire occurrence says there was a fire, but no fire or explosion is in the vehicle's events. Fix one of them.
ER.086	The vehicle's events include a fire or explosion, so fire occurrence must be Yes.
ER.087	There was no driver, so the driver address must say no driver.
ER.088	There was no driver, so the license jurisdiction must be Not Applicable.
ER.089	There was no driver, so the license number must say no driver.
ER.090	There was no driver, so speeding-related must be No.
ER.091	There was no driver, so driver distraction must say no driver.
ER.092	There was no driver, so attempted avoidance maneuver must say no driver.
ER.093	There was no driver, so vision obscured must say no driver.
ER.094	There was no driver, so the driver's related factors must say no driver.
ER.095	The driver isn't licensed, so the license number must say not licensed.
ER.102	The vehicle is a crash attenuator truck, so its unit type must be Working.
ER.103	The vehicle is a rental truck over 10,000 lb, but its body type or weight rating isn't a truck that size. Fix one of them.
ER.104	The vehicle isn't an emergency vehicle, so the emergency response fields must be Not Applicable.
ER.105	The vehicle isn't a bus, so bus use must be Not a Bus.
ER.106	The vehicle was lane splitting, but it isn't a motorcycle or moped. Fix one of them.
ER.107	The crash was at a railroad crossing, but no crash-level factor says railroad-related. Add it.

32.2 Check

Check	What it means and what to change
WR.001	The first thing hit was a roadside object (barrier, sign, pole...), but where it happened isn't off the road. Check the location of the first harmful event - roadside, median, island or gore.
WR.002	The weather says rain, snow or sleet, but the road surface says dry. Check both.
WR.005	A vehicle is a school bus, but the crash isn't marked school-bus related. Check both.

Check	What it means and what to change
WR.006	The first thing hit was a working vehicle, but the work-zone fields say there was no work zone. Check both.
WR.007	A vehicle's model year is more than a year after the crash date. Check the model year.
WR.008	The crash is marked school-bus related, but no vehicle's special use is school transport. Check both.
WR.009	The crash is marked school-bus related, but no vehicle is a school bus. Check both.
WR.010	The crash was in May-September, but the road surface says ice, slush or snow. Check the road surface.
WR.011	A traffic sign was hit, but no vehicle's traffic control device is a sign. Check both.
WR.012	A traffic signal was hit, but no vehicle's traffic control device is a signal. Check both.
WR.013	Someone is seated in an enclosed passenger or cargo area, but the vehicle isn't a bus or large passenger vehicle. Check the seating position or body type.
WR.014	An air bag deployed, but the vehicle is a 1997 or older model. Check the air bag or the model year.
WR.015	An air bag deployed for someone who wasn't in a front, second or third row seat. Check the seating position or air bag.
WR.016	The driver is marked as exceeding the speed limit, but the speed limit is not applicable or unknown. Check both.
WR.017	The driver is marked as speeding, but no citation was issued. Check both.
WR.018	Alcohol is suspected, but no alcohol test was given. Check the alcohol test status.
WR.019	A non-motorist darted or dashed, but they weren't crossing. Check what they were doing before the crash.
WR.020	The vehicle is newer than 1981, but its VIN isn't 17 characters. Check the VIN.
WR.021	The first thing hit was an object from another vehicle, but the manner of collision isn't Other. Check both.
WR.022	A vehicle is a school bus, but its special use isn't school transport. Check both.
WR.023	A vehicle's special use is school transport, but it isn't marked as a school bus. Check both.
WR.024	A vehicle's special use is school transport, but the crash isn't marked school-bus related. Check both.