TTAP

Traffic & Transportation Analysis Probing

User Manual for Crash Data Analysts

Ask a question of your state's crash data as one readable sentence - down to the vehicle and the person - and get the answer as a table, a chart, or the list of crashes behind the number.

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Bad Marine LLC

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1. Welcome to TTAP

1.1 What the name means

TTAP stands for **Traffic & Transportation Analysis Probing**. It is the place where a state's crash data analysts ask questions of the crash data and get answers they can check.

1.2 What TTAP does

TTAP turns a question into one readable sentence that you build on screen, for example:

> **Example:** Count **Crashes** from **Officer reports** in **Finished reports** where **Crash Severity = 01 - Fatal Injury (K)** and has **a Vehicle** with **Hit and Run = 01 - Yes**, grouped by **Day of week**.

From that one sentence TTAP gives you:

- a **count** - of crashes, of vehicles, or of people;
- a **table** and a **chart** of the count broken down the way you choose;
- the **records** behind any number - one row per crash, vehicle or person - and the whole report for any row you click;
- a **comparison** of data sets: which crashes are in which, and which fields changed between them;
- a **CSV file** of the counts or of the records.

You never write code. You pick fields and values from lists, and the values always show their meaning next to their code.

1.3 How it fits with your state's crash system

TTAP works alongside your state's crash intake system (the Refinery). The state system is the system of record: it receives the reports, and its reviewers work them. TTAP keeps its own copy of the crash data for answering questions, and refreshes that copy from the state system on a schedule your administrator sets (every 15 minutes unless changed).

- TTAP **only reads**. Nothing you do in TTAP changes a crash report.
- TTAP's copy is **never the source of truth**. If it is ever in doubt, an administrator can throw it away and pull every report again (section 8.4).
- Names, addresses, plates and the narrative **are not sent to TTAP**, so they cannot appear in a result.

> **Note:** Every result says how fresh the data is: look for **data as of** in the results bar. If the state system could not be reached on the last refresh, TTAP says so on screen and answers from the last good copy (section 7).

1.4 Who can do what

Who may open TTAP, and what each person may do in it, is set in your state's crash system (the Refinery), on its **Access Administration** screen - for a role or for one person. TTAP asks the Refinery each time you come in and goes by its answer. TTAP has no sign-in and no roles of its own: the Refinery vouches for the person.

Permission	What it opens
TTAP	TTAP itself - the Query Studio.
TTAP officer reports	Officer reports as a choice in the query sentence.
TTAP driver reports	Driver reports as a choice in the query sentence (only if your state has driver reports).
TTAP all user activity	Reviewer and workflow numbers for everyone; without it a person sees only their own.
Manage TTAP	TTAP's **Admin** pages (section 8).

- Any mix works; there are no fixed bundles.
- To begin with, only the Refinery's system administrators hold them. A Refinery administrator gives them to everyone else.
- The Refinery also has one switch for the whole state - whether the state has TTAP at all. While it is off, nobody gets in.
- The names above are the ones the Refinery's manual uses; its screen may word them a little differently.

Officer reports are the usual choice. Whether driver reports exist at all comes from your state's setup; where they do, a person sees them only if their permissions allow it, and any result that includes them is marked **Includes driver reports**.

1.5 A question, start to finish

1. Open TTAP. The **Query Studio** appears, with an empty query.
2. Read the sentence at the top and set it: what to **Count**, **from** which report type, **in** which data set, between which crash dates.
3. Add **filters** on the crash, and **boxes** for a vehicle, a driver, an occupant or a non-motorist that must be in the crash.
4. Choose a **Group by** if you want the count broken down.
5. Press **Run query**.
6. Read the **Table** or the **Chart**. Click any count to see the **Records** behind it, and click a record to read the whole report.
7. **Save query** if you will ask it again, and **Export** a CSV if you need the numbers elsewhere.

2. Getting around

2.1 Opening TTAP

You open TTAP from your state's crash system. There is no TTAP password and no TTAP sign-in screen.

1. Sign in to the Refinery as you always do.
2. Click **TTAP** in the Refinery's top bar. The link is there only if you have the TTAP permission and your state has TTAP.
3. TTAP opens in a new tab, already knowing who you are.

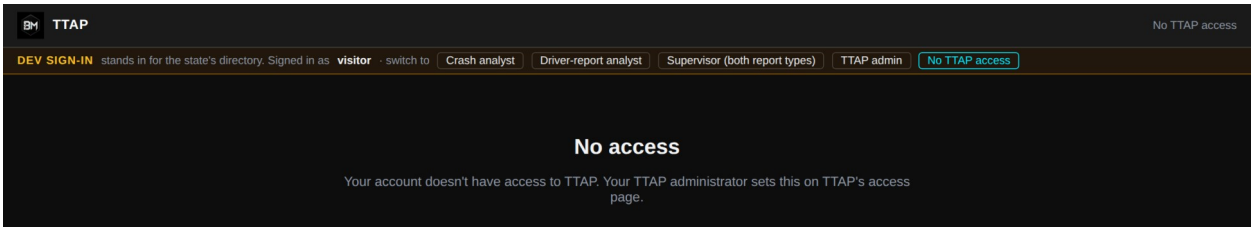
- The Refinery hands TTAP a one-time pass for you. It works once, and for about a minute - so a link copied from the address bar, or one opened late, will not work again. Click **TTAP** in the Refinery again.
- Your administrator may also allow TTAP to be opened straight from its own address - a bookmark, say (section 8.4). If not, the Refinery's link is the only way in.
- TTAP checks your access with the Refinery again every few minutes while you work. If your account is paused or your permission removed, TTAP closes to you within minutes.
- If the Refinery cannot be reached to check, **nobody is let in** until it can.

> **Pre-release:** opening TTAP through the Refinery's link is built on both sides, but the whole path has not yet passed a test from end to end. The technical manual (section 12) says exactly what has and has not been tested.

If TTAP doesn't open

What you see	What it means
No access - "Access to TTAP is set in the Refinery, on its access page."	Your account has no TTAP permission. Ask a Refinery administrator.
No access - "TTAP isn't switched on for this state. ..."	The Refinery's switch for TTAP is off. A Refinery administrator turns it on in the Refinery's System Settings.
No access - "The Refinery doesn't know this account. ..." or "This account is paused in the Refinery."	The Refinery's administrator adds or un-pauses the account on the Refinery's access page.
No access - "The Refinery couldn't be reached to check your access, so nobody is let in. Try again in a few minutes."	TTAP could not ask the Refinery. Try again shortly.
Open TTAP from the Refinery - "TTAP is opened from the TTAP link in the Refinery's menu."	Your state does not allow TTAP to be opened by its own address. Press the button, or use the link in the Refinery.
That link has expired - "Each link from the Refinery works once, for about a minute."	Press **Open TTAP from the Refinery** to get a new one.
That link was for someone else	The link was made for a different account than the one signed in to this computer. Open TTAP from the Refinery yourself.

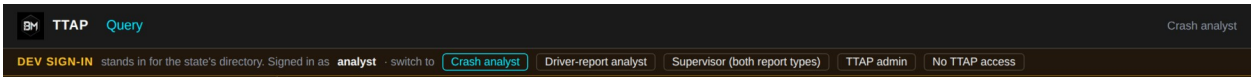
What you see	What it means
In the Refinery: "No access to TTAP" or "TTAP isn't set up here"	The Refinery itself says you have no TTAP permission, or that this state has no TTAP to open.



No access, as it looks on a test system (where TTAP keeps a role list of its own)

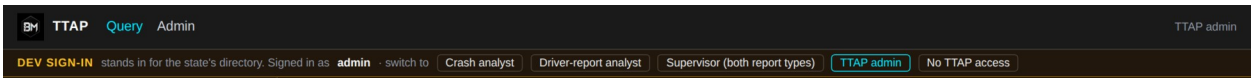
The top bar

The top bar is on every screen:



The top bar for an analyst, with the test sign-in strip under it

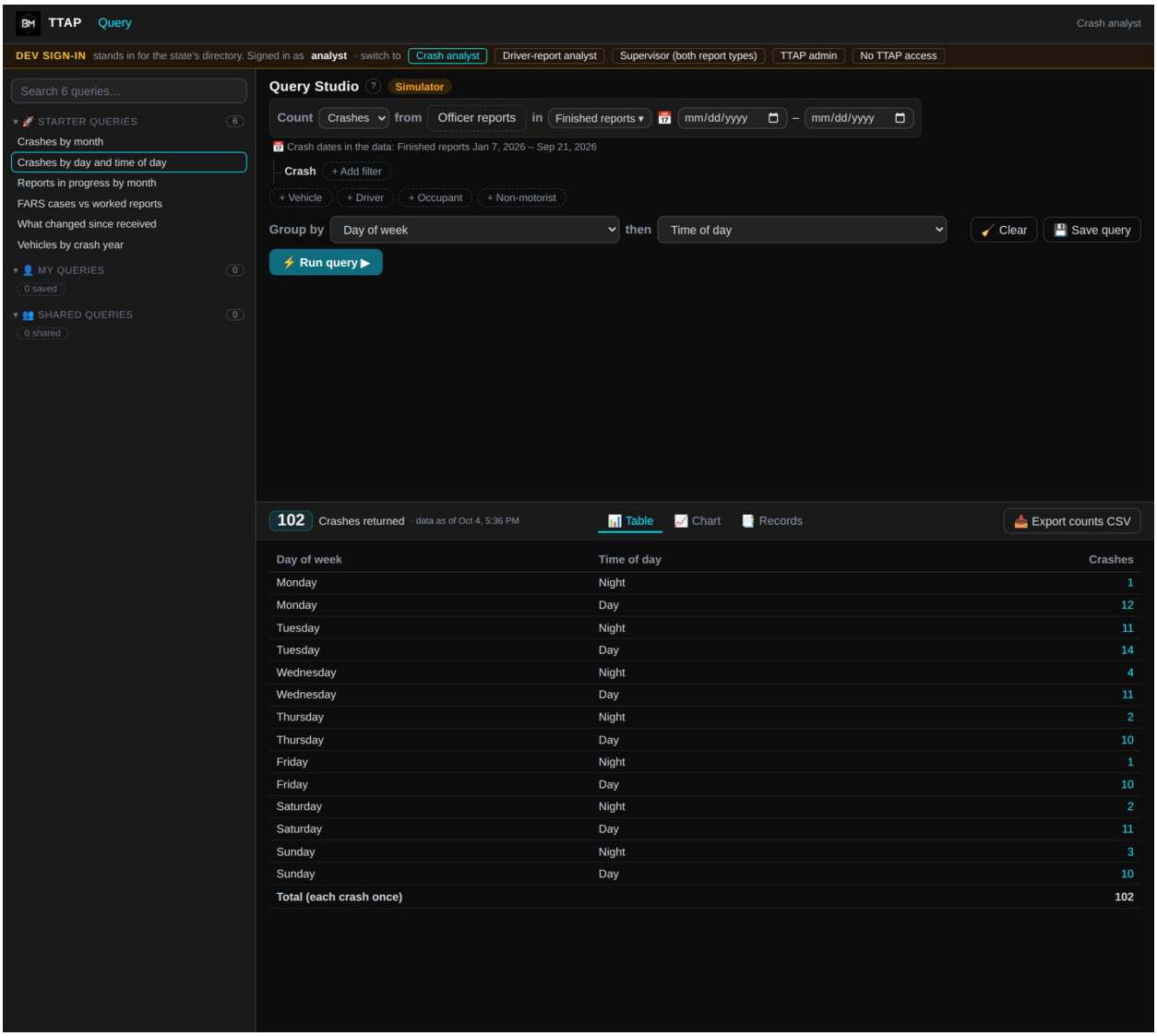
- **TTAP** (with the logo) and **Query** - both take you to the Query Studio, your home page. Hover over the name to see what TTAP stands for.
- **Admin** - only appears for people with the Manage TTAP permission (section 8).
- On the right: who you are signed in as.



The top bar for an administrator - Admin appears

> **Test systems:** On a test system an amber **Dev sign-in** strip runs under the top bar, with a button for each test person. It stands in for the state's sign-in so testers can try each kind of access. A live system has no strip.

2.2 The Query Studio at a glance



The Query Studio: query library on the left, the query on top, results below

- **Left - the query library.** Starter queries, your own saved queries, and queries others have shared. Click one to load it and run it (section 6).
- **Top right - the query.** The sentence, the filters and boxes, Group by, and the Clear, Save query and Run query buttons (section 3).
- **Bottom right - the results.** The count, then Table, Chart and Records (section 4).

Each part scrolls on its own, so the query stays in view while you read a long result.

2.3 Conventions used everywhere

- **[?] help tips** - instructions live behind the small ? buttons. Hover over (or tab to) one to read it. The ? beside **Query Studio** is a short manual of its own.
- **Codes are always shown with their meaning**, like 01 - Fatal Injury (K). You never have to remember what a bare number means.

- **Changing the query does not change the results on screen.** They stay as they were until you press Run query. (Clicking a query in the library is the exception: it loads and runs at once.)
- **Blue numbers are links.** A count in a table opens the records behind it.
- **Colored bars are notices.** Amber means the answer is partial; red means the data may be out of date (section 7).
- **A dash (-) in a cell** means the report has nothing recorded there.

2.4 The online demo

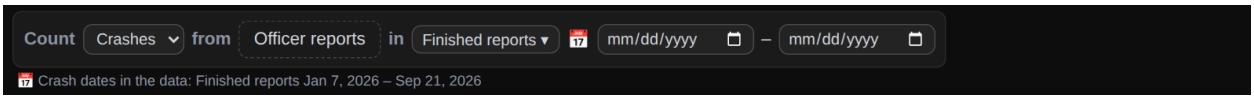
The Bad Marine website has a **Try it** demo of TTAP. It is the same product, with these differences:

- **Every crash in it is made up.** It runs on TTAP's built-in simulator and can never show real crash data.
- **There is no sign-in.** A **Sample data** strip under the top bar lets you try it as a crash analyst or as a TTAP admin.
- **Your changes are yours alone.** Saved queries and settings are kept for your visit only. **Reset my demo** starts again; so does leaving.
- **The Ask box is shown switched off**, with a note saying why: it runs on the Refinery's local AI model, and the demo has no Refinery.
- A few admin actions that would change the data every visitor shares - the Time of day bands, Refresh and Rebuild, Access - answer "Not in the demo".
- The strip also has a link to this manual.

3. Building a query

A query reads top to bottom as one sentence. You can build it in any order, and change any part later.

3.1 The sentence



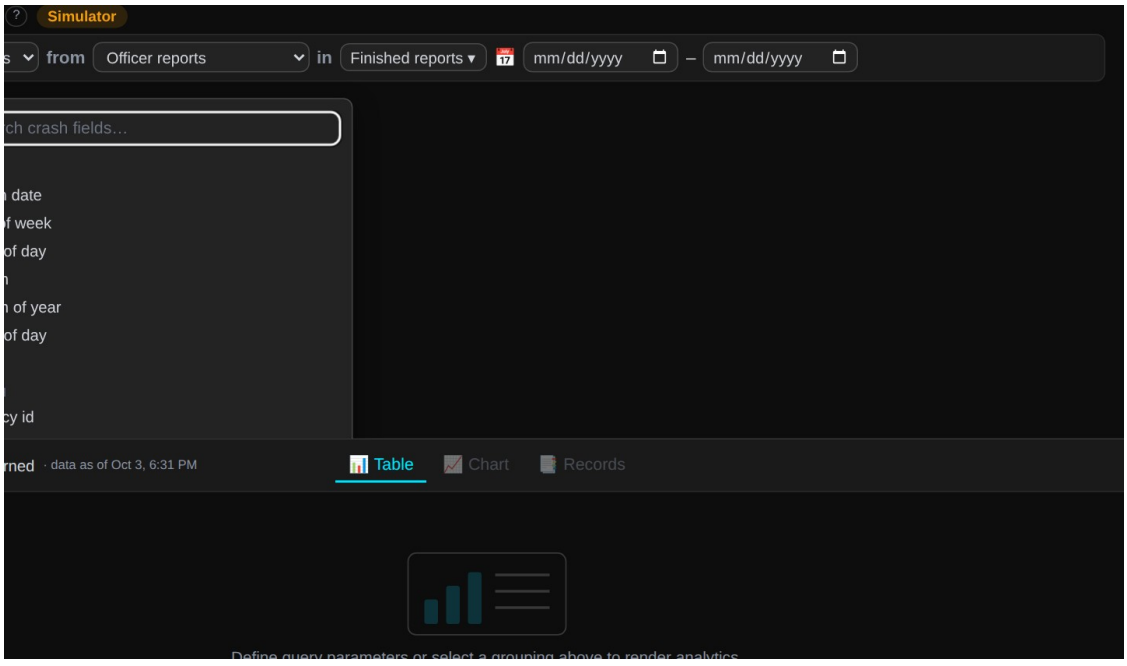
The top line of every query

Part	What you choose
Count	**Crashes**, **Vehicles** or **People** - what the number is a number of (section 3.7).
from	The report type: **Officer reports**, and where your state has them and your role allows, **Driver reports** or **Officer and driver reports**. If you have only one choice it is shown as plain text.
in	The data set to search - **Finished reports** unless you change it. Tick two or more to compare them (section 5).
Dates	The first and last **crash date** to include. Leave both empty for every date.

Under the sentence, a line beginning **Crash dates in the data** gives the first and last crash date held in the data sets you are searching - so you can see at once whether the dates you want are there.

3.2 Crash filters

The **Crash** line holds conditions about the crash itself: when, where, severity, weather and so on. Press **+ Add filter** to add one.



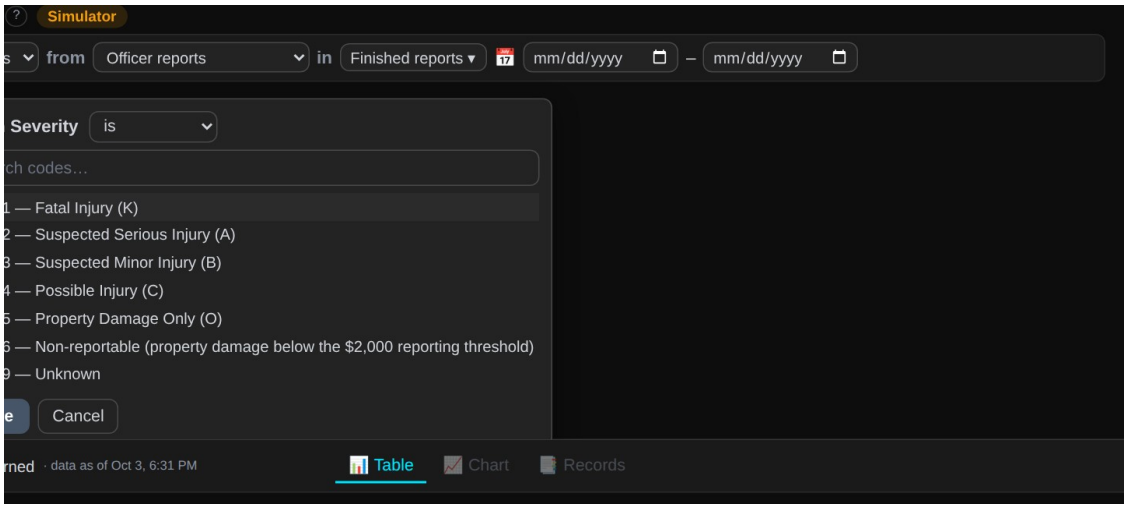
+ Add filter: search for a field, or pick it from the list

1. Press **+ Add filter**. A list of fields opens, grouped: **When** (TTAP's own date and time fields), then the crash fields your administrator offers.
2. Type a few letters in **Search crash fields** to narrow the list, and click the field.
3. Choose how it must match and pick the values (section 3.3).
4. Press **Done**. The filter appears as a chip on the Crash line.

Every filter on the Crash line must be true. To change one, click its chip; to remove it, click its **x**.

> **The When fields:** **Crash date**, **Year**, **Month**, **Month of year**, **Day of week**, **Hour of day** and **Time of day** are worked out by TTAP from each crash's date and time. **Day of week** is always the calendar day: a crash at 01:30 on a Wednesday is a Wednesday crash, even if your Time of day bands call that hour Night.

3.3 Picking values



A coded field: tick one or more values - each shows its code and its meaning

What you see depends on the kind of field:

Kind of field	How it can match	How you give the values
Coded (a code list)	is, is not, between, is blank, has a value	Tick the values. **Search codes** narrows a long list. Values no longer in use are greyed and listed last.
Text	is, is not, contains, is blank, has a value	Tick from the values found in the data (each shows how many reports have it), or type one and press **Add**.
Number or date	=, not =, <, <=, >, >=, between, is blank, has a value	Type the number or pick the date; **between** takes two.
Yes / No	is, is blank, has a value	Tick Yes, No or both.

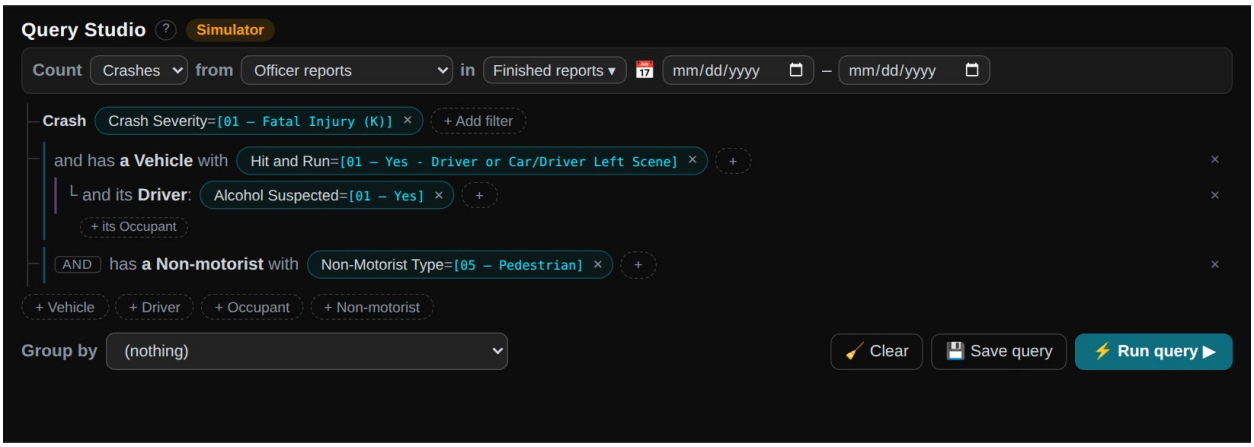
- Ticking **several values** means any one of them will do.
- **is blank** finds reports with nothing recorded in the field; **has a value** finds the rest.

3.4 Named conditions

A **named condition** is a term your agency has defined once - for example "Alcohol-impaired driver" - so that everyone means the same thing by it. Named conditions appear at the top of the field list, in their own group, and you pick one like a field. Hover over one to read what it stands for. Administrators create them (section 8.2).

3.5 Boxes: vehicles, drivers, occupants, non-motorists

To ask about the vehicles or people in a crash, add a **box**. The buttons under the query - **+ Vehicle**, **+ Driver**, **+ Occupant**, **+ Non-motorist** (the parts your state's reports have) - each add one.

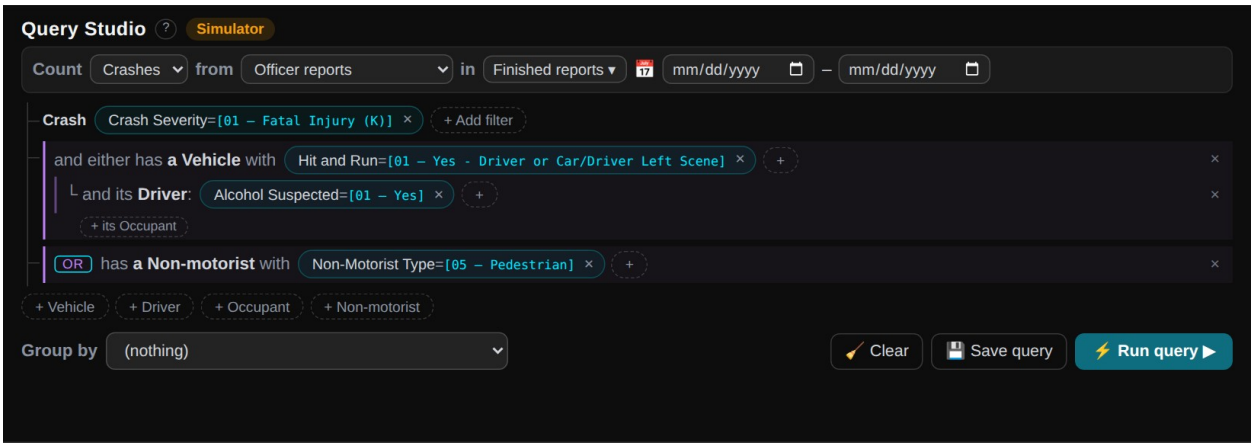


A crash filter, a Vehicle box with its Driver, and a Non-motorist box

- A box reads **"and has a Vehicle with ..."**. Press the **+** inside the box to add conditions to it.
- **Every condition in one box must be true of the same vehicle (or person).** A Vehicle box with "Hit and Run = Yes" and "Body type = Pickup" finds crashes where one vehicle is both.
- **Separate boxes may match different vehicles.** Two Vehicle boxes find crashes with one vehicle matching the first and one - possibly another - matching the second.
- **+ its Driver**, **+ its Occupant** add a box inside a Vehicle box: that same vehicle's driver or occupant.
- An **empty box** still counts: it reads **(any vehicle)** and requires the crash to have one.
- The **x** at the right of a box removes it.

3.6 And / or between boxes

Boxes are all required unless you say otherwise. Click the **and** in front of a box to turn it into **or**: then either that box or the one above will do. Click again to turn it back.



The same query with OR: a hit-and-run vehicle with a driver suspected of alcohol, or a pedestrian

> **Example:** To count the people killed in crashes, count **People** with an **Occupant** box "Injury Status = fatal" **or** a **Non-motorist** box "Injury Status = fatal". Boxes joined by **or** are counted together.

3.7 What gets counted

- **Count Crashes** - each crash that meets the query is counted once, however many vehicles or people in it match.
- **Count Vehicles** or **Count People** - the box whose vehicles or people are being counted is marked **counted**. With no such box, every vehicle (or person) in a matching crash is counted.
- In the crash world a **fatal** is counted at the crash level and a **fatality** at the person level. Count **Crashes** for fatal crashes; count **People** for fatalities.

3.8 Group by

Group by breaks the count down - by month, by day of week, by severity, by any field you are offered. Choose a second field under **then** to break each group down again. Leave it at **(nothing)** for a single total.

3.9 Clear, Save, Run

- **Run query** - runs the query as it now reads. It is greyed out until you have asked for something: a filter, a box, a Group by, dates, or another count or data set. If something is missing or does not make sense, a red bar under the buttons says what, and nothing runs.
- **Clear** - empties the query and starts again. It is greyed out while there is nothing to clear.
- **Save query** - see section 6.

3.10 Asking in your own words - the Ask box

Where your state has set it up, a box at the top of the Query Studio lets you type a question the way you would say it, for example "fatal crashes on wet roads in 2022 by county". Press **Fill in** (or Enter) and TTAP fills in the query below for you.

1. Type your question and press **Fill in**. While it works, a line says so - on a computer without a graphics card this can take a minute or two.

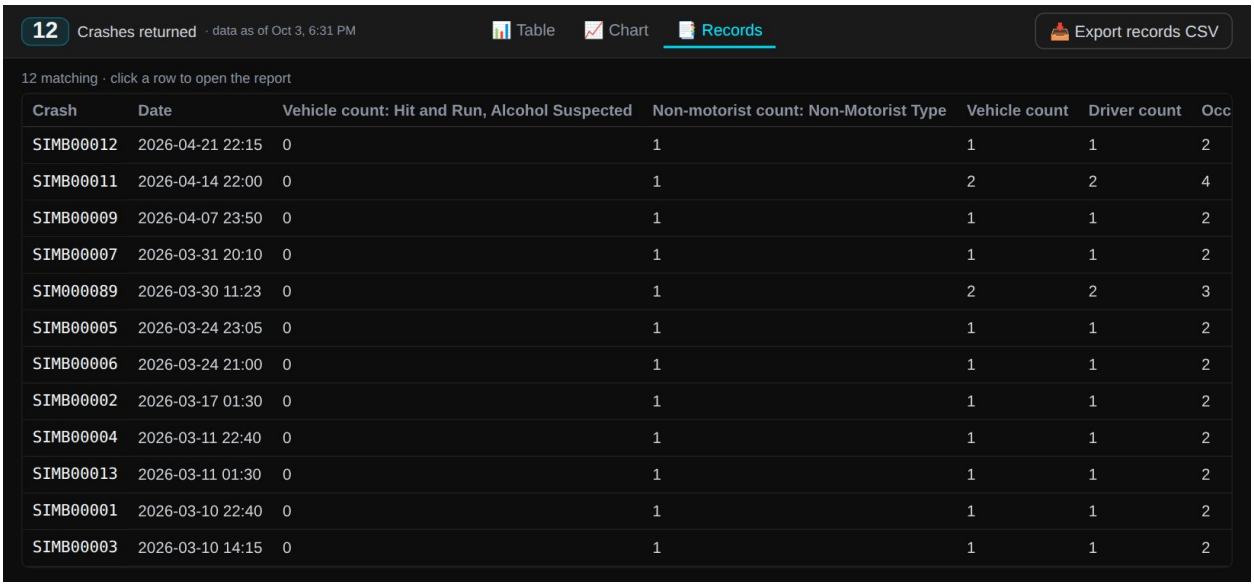
2. TTAP fills in the sentence, the filters, the boxes and Group by, and clears any old results so they can't be mistaken for the new question's.
3. **Read every part of the sentence.** A line above it says what TTAP used and anything it left out.
4. Fix anything that is wrong, exactly as if you had built it yourself.
5. Press **Run query**. The Ask box never runs anything on its own.

- The words your agency uses are written down as **Ask rules** by your administrator (section 8.3) - for example that a *fatal* is counted at the crash level and a *fatality* at the person level. The line above the sentence names the rules that were used.
- **Years** are taken straight from your question. A span ("2020 to 2022") becomes a between.
- Anything the question doesn't mention - a time, a day, a number - is left out, and the line says so.
- If the question isn't about crash data, or asks for something TTAP doesn't have, you get "Couldn't turn that into a query" and the reason, and nothing is filled in.
- Your question itself is not kept anywhere. The audit log records that you used the Ask box and the query it filled in.

> **No Ask box?** It appears only when your state's crash system has its local AI model running. Without it, everything else works as usual. In the online demo the box is shown switched off (section 2.4).

4. Reading the results

4.1 The results bar



12 Crashes returned · data as of Oct 3, 6:31 PM | Table | Chart | Records | Export records CSV

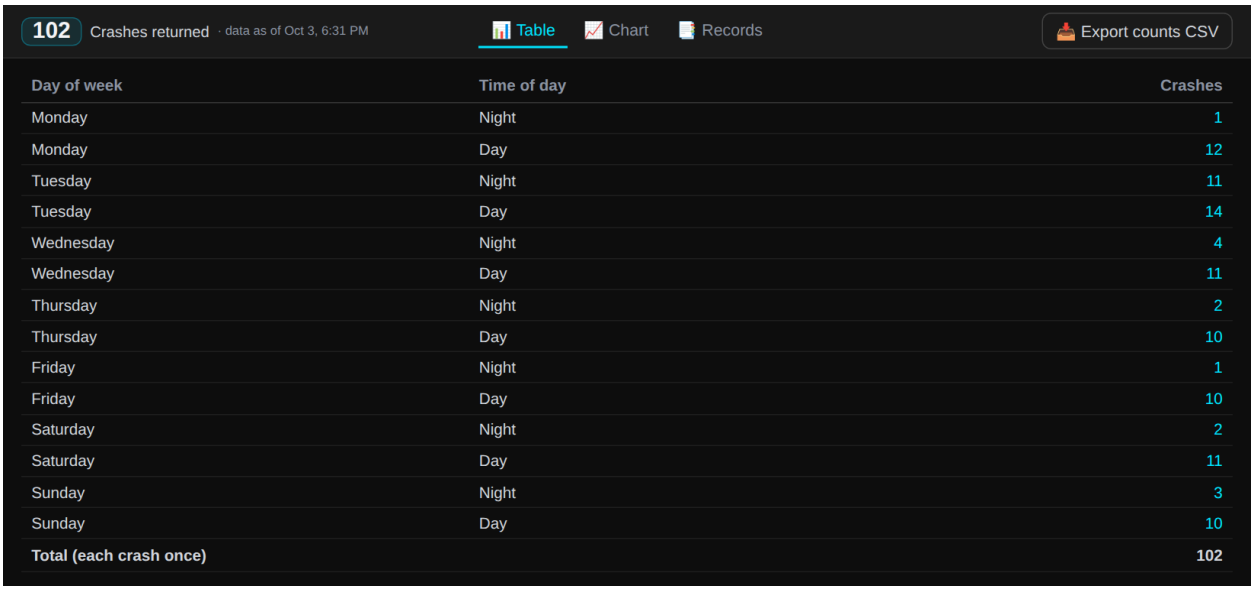
12 matching · click a row to open the report

Crash	Date	Vehicle count: Hit and Run, Alcohol Suspected	Non-motorist count: Non-Motorist Type	Vehicle count	Driver count	Occ
SIMB00012	2026-04-21 22:15	0	1	1	1	2
SIMB00011	2026-04-14 22:00	0	1	2	2	4
SIMB00009	2026-04-07 23:50	0	1	1	1	2
SIMB00007	2026-03-31 20:10	0	1	1	1	2
SIM000089	2026-03-30 11:23	0	1	2	2	3
SIMB00005	2026-03-24 23:05	0	1	1	1	2
SIMB00006	2026-03-24 21:00	0	1	1	1	2
SIMB00002	2026-03-17 01:30	0	1	1	1	2
SIMB00004	2026-03-11 22:40	0	1	1	1	2
SIMB00013	2026-03-11 01:30	0	1	1	1	2
SIMB00001	2026-03-10 22:40	0	1	1	1	2
SIMB00003	2026-03-10 14:15	0	1	1	1	2

A query with no Group by: one total, and how to break it down

- **The number** - how many crashes, vehicles or people the query found.
- **data as of** - when TTAP's copy of the data was last refreshed.
- **Includes driver reports** - appears when the result includes them.
- **Table**, **Chart**, **Records** - three ways to look at the same result.
- **Export** - on the right (section 4.6).

4.2 Table



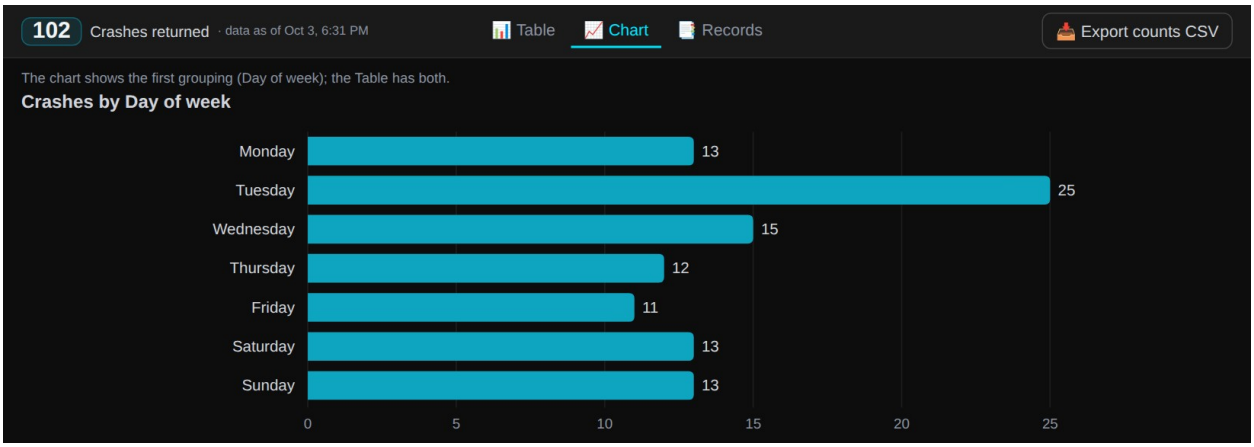
102 Crashes returned · data as of Oct 3, 6:31 PM | Table | Chart | Records | Export counts CSV

Day of week	Time of day	Crashes
Monday	Night	1
Monday	Day	12
Tuesday	Night	11
Tuesday	Day	14
Wednesday	Night	4
Wednesday	Day	11
Thursday	Night	2
Thursday	Day	10
Friday	Night	1
Friday	Day	10
Saturday	Night	2
Saturday	Day	11
Sunday	Night	3
Sunday	Day	10
Total (each crash once)		**102**

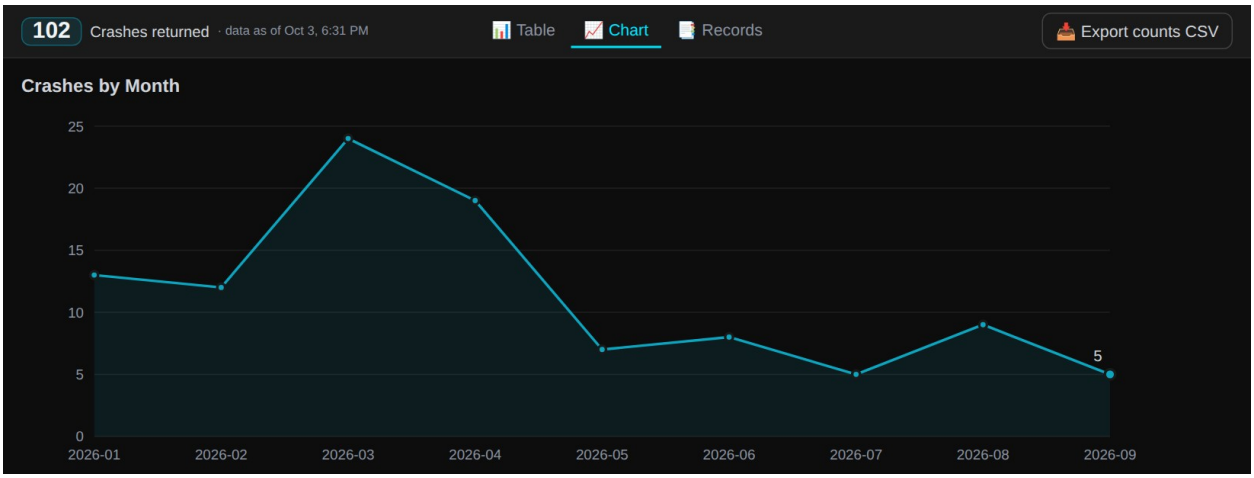
Crashes by day of week, then time of day

- One row per group, with its count. With two groupings, one row per pair.
- **Click a count** to open the records behind that row.
- **Total (each crash once)** at the bottom is the query's total. It can be less than the sum of the rows when one crash belongs to more than one row (for a field that can hold several values).
- With no Group by, the Table shows the total and reminds you to choose a grouping or open Records.

4.3 Chart



The same result as a chart

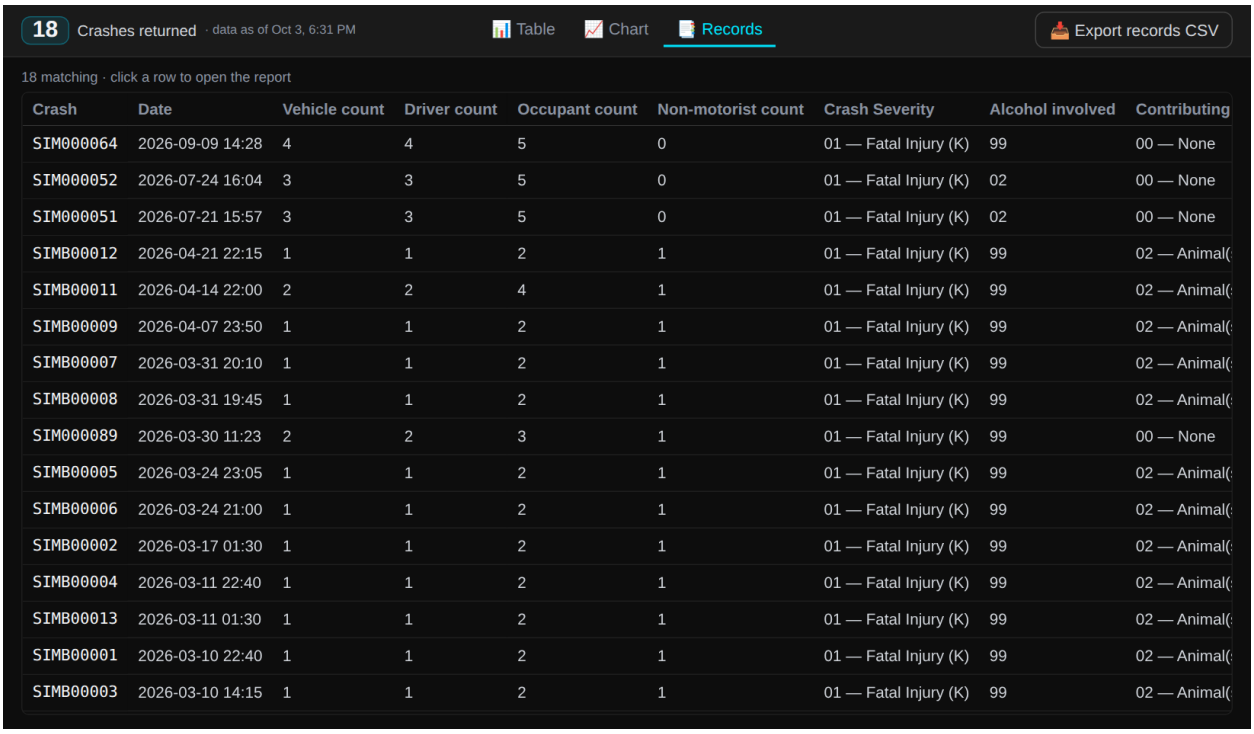


Grouped by month, the chart is a line over time

- Bars for most groupings; a line when the first grouping is a time (month, year).
- With two groupings the chart shows the first; the Table has both.
- **Click a bar or a point** to open its records.
- A chart needs a Group by. Without one it says so.

4.4 Records

Records lists what was counted: one row per crash - or per vehicle or person when that is what you counted - newest first.



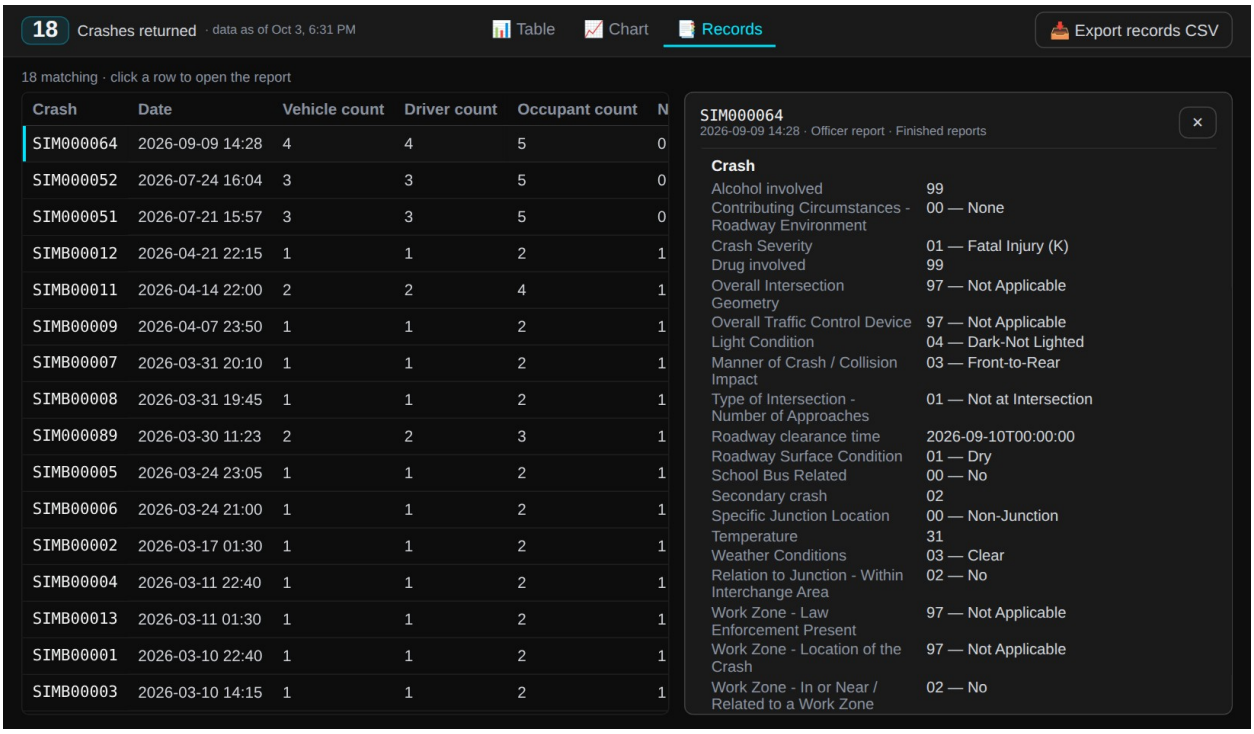
Crash	Date	Vehicle count	Driver count	Occupant count	Non-motorist count	Crash Severity	Alcohol involved	Contributing
SIM000064	2026-09-09 14:28	4	4	5	0	01 — Fatal Injury (K)	99	00 — None
SIM000052	2026-07-24 16:04	3	3	5	0	01 — Fatal Injury (K)	02	00 — None
SIM000051	2026-07-21 15:57	3	3	5	0	01 — Fatal Injury (K)	02	00 — None
SIMB00012	2026-04-21 22:15	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00011	2026-04-14 22:00	2	2	4	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00009	2026-04-07 23:50	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00007	2026-03-31 20:10	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00008	2026-03-31 19:45	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIM000089	2026-03-30 11:23	2	2	3	1	01 — Fatal Injury (K)	99	00 — None
SIMB00005	2026-03-24 23:05	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00006	2026-03-24 21:00	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00002	2026-03-17 01:30	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00004	2026-03-11 22:40	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00013	2026-03-11 01:30	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00001	2026-03-10 22:40	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(
SIMB00003	2026-03-10 14:15	1	1	2	1	01 — Fatal Injury (K)	99	02 — Animal(

Records: one row per crash, with how many of each part the report has

- **Crash** and **Date** identify the crash. When you count vehicles or people, a column says which one the row is.
- The **fields your query uses** each have a column, so you can see why the row matched.
- On crash rows, **Vehicle count**, **Driver count**, **Occupant count** and so on say how many of each part the report has, and how many meet each box of your query.
- **Report** and **Data set** say which report type the row is and which data set it came from.
- The line above the list says how many matched. The screen shows the newest rows up to a cap your administrator sets (200 unless changed); **Export records CSV** carries them all.

4.5 Opening a report and checking the crash case

Click any row to read the whole report beside the list, part by part: the crash, each vehicle, its driver and occupants, each non-motorist. Only the fields you are allowed to see are shown. When the row is a vehicle or a person, that part is marked **this row**.



Click a row: the whole report opens beside the list

> **Spot-checking:** Where your state has it set up, each row has a small arrow beside the crash number, and the opened report has **Open the crash case**. Both open that crash in the state's crash system, in a new tab, so you can check a result against the case itself. If you see no arrow, your administrator has not set the link up.

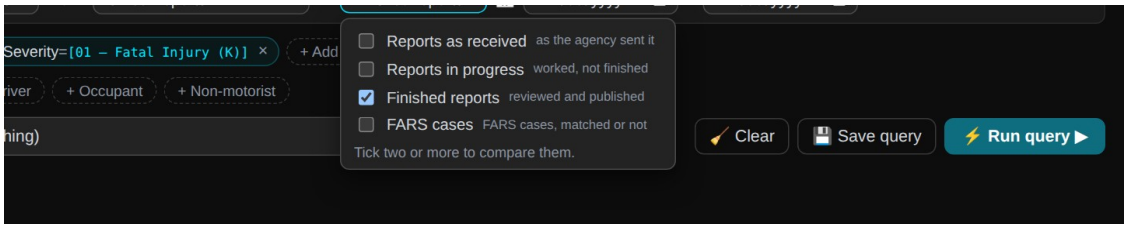
Press the **x** at the top of the report to close it.

4.6 Exporting

- On **Table** or **Chart**: **Export counts CSV** - the counts in the table.
- On **Records**: **Export records CSV** - one row per record listed, with every field you are offered, not only the ones on screen.
- If you see no Export button, your administrator has turned exporting off.
- Every export is written to the audit log with your name and the query.

5. Data sets and comparing them

5.1 The four data sets



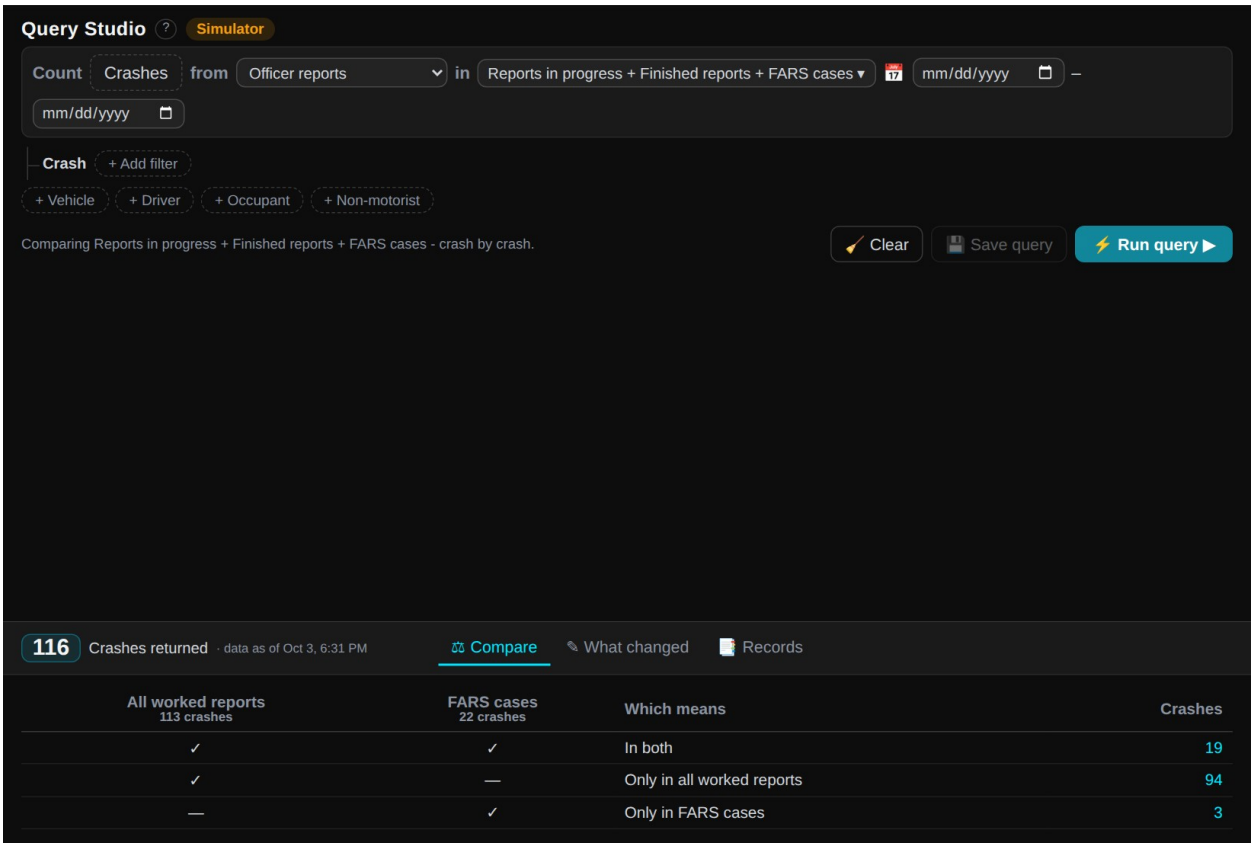
The data set list in the query sentence

Data set	What it holds
Reports as received	Each report as the agency sent it, before anyone at the state worked it.
Reports in progress	Reports that have been worked but are not finished.
Finished reports	Reports that are reviewed and published. This is the usual choice.
FARS cases	Fatal crash cases, whether or not they have been matched to a report.

Only the data sets your state has set up are offered. **Reports in progress** and **Finished reports** together are simply **All worked reports** - each worked report is in exactly one of them.

5.2 Compare

Tick two or more data sets and run. TTAP compares them crash by crash and shows which crashes are in which.

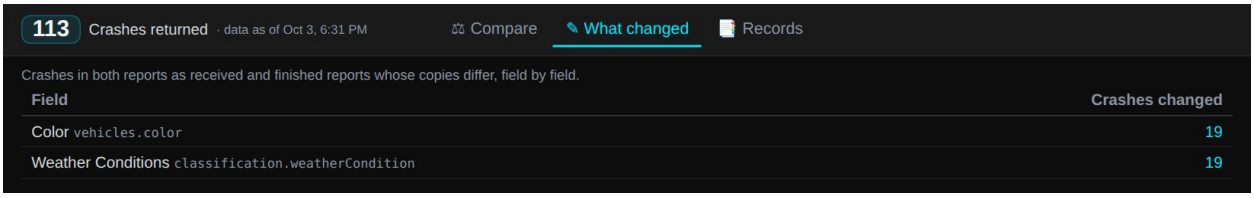


FARS cases against all worked reports: in both, only in one, only in the other

- Each column is one side, with its own total.
- Each row is a pattern that occurs - **In both**, **Only in ...** - and how many crashes fit it.
- **Click a count** to open those crashes in Records.
- A comparison always counts crashes, and has no Group by.

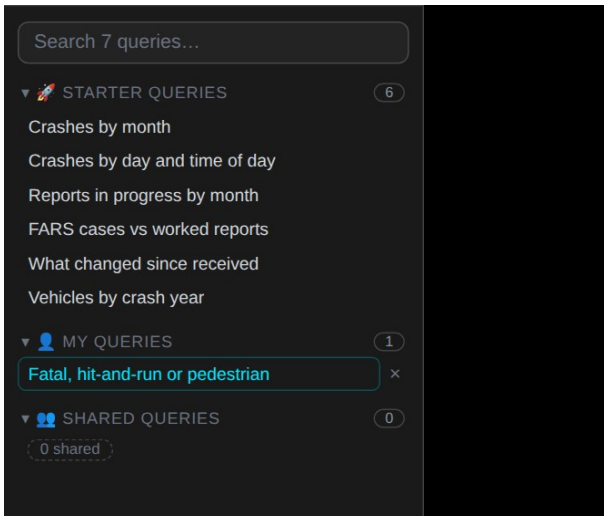
5.3 What changed

When you compare two data sets, a **What changed** tab lists every field whose value differs between the two copies of the same crash, with how many crashes differ - for example, what reviewers changed between a report as received and the finished report. Click a count to open those crashes.



What changed between reports as received and finished reports

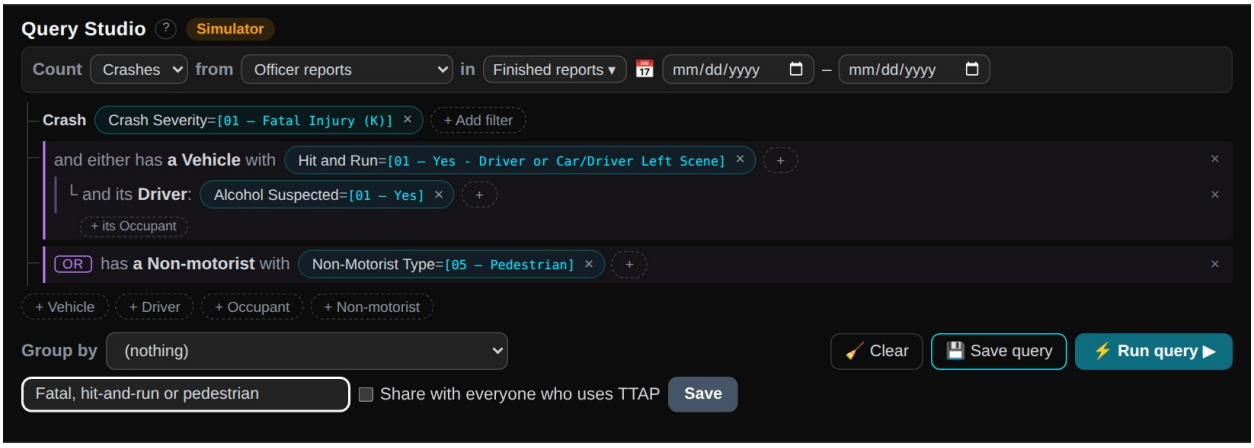
6. Saving and sharing queries



The query library

- **Starter queries** - ready-made examples. Click one to load and run it, then change it as you like.
- **My queries** - the ones you saved. Click to load; the **x** deletes one. A query you shared is marked **shared**.
- **Shared queries** - saved by others and shared with everyone who uses TTAP. Hover to see who shared it. Loading one gives you your own copy to change.
- The **search box** at the top finds a query by name across all three.

6.1 Saving a query



Save query: name it, and choose whether to share it

1. Build the query and press **Save query**.
2. Type a name.
3. Tick **Share with everyone who uses TTAP** if others should see it.
4. Press **Save**. It appears under My queries.

When you have loaded one of your own queries and changed it, **Save changes** updates it and **Save as new** keeps the original and saves the changed one under the new name.

> **Note:** Clicking a query in the library loads it and runs it at once, so you see its answer straight away.

7. What TTAP tells you about gaps

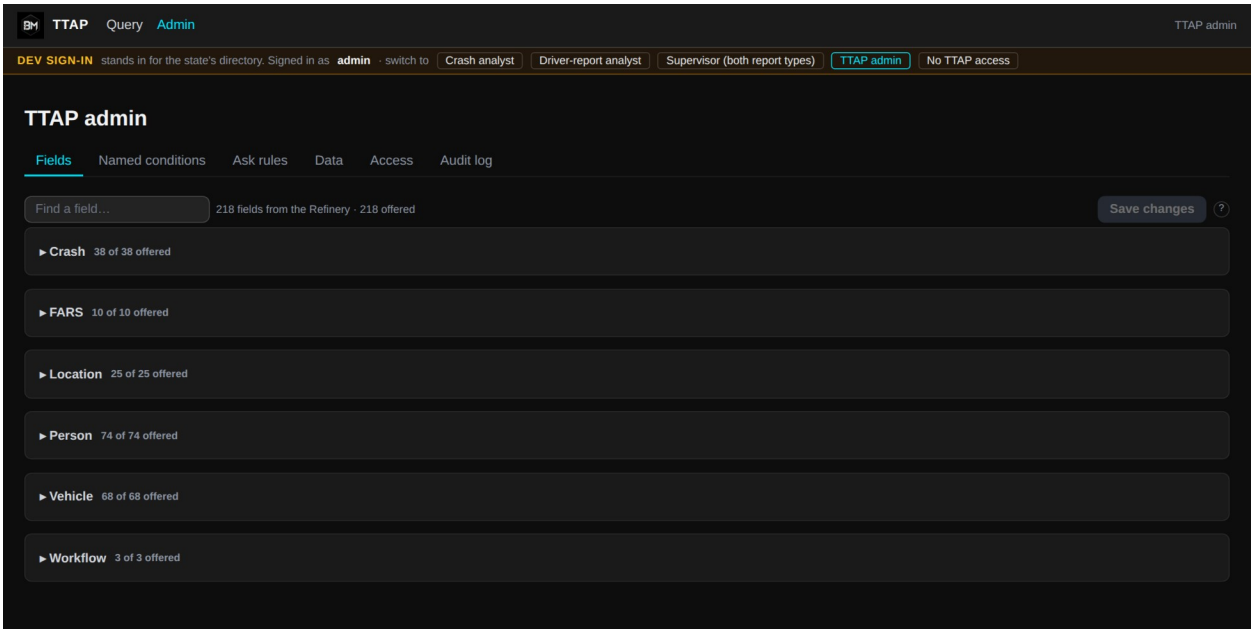
TTAP never silently leaves something out. When the data cannot fully answer a question, it says so on screen - above the query, or above the result.

What you see	What it means
Red bar: "The Refinery couldn't be reached on the last refresh ... TTAP is answering from the last good refresh, ..."	The data on screen is older than usual. The answer is right as of the time shown, and may be missing newer reports.
Amber bar: "... can't be reached in the Refinery", "... aren't sent to TTAP by the Refinery yet" or "... aren't set up in the Refinery"	One of the data sets is not available. Queries that need it say so.
Amber bar: "N new field(s) arrived after the last full rebuild ..."	A field was added recently. Reports synced before then have no value for it until an administrator rebuilds the query store (section 8.4). Hover over the bar to see which fields.
"N report(s) waiting for their report type."	The state system has not yet said whether these are officer or driver reports. They are kept out until it does.
Partial results: above a result	The count is right for what TTAP has, and the bar says what is missing - for example crashes not yet FARS-coded.
Simulator tag beside Query Studio	This is a test system running on made-up crashes, not real data.
No data yet	TTAP is not connected to the state system, or has not finished its first refresh.

8. TTAP admin

The **Admin** link appears for people with the Manage TTAP permission. The admin pages adjust TTAP itself - fields, named conditions, Ask rules, data and the audit log. **Who may use TTAP is not set here**: that is done in the Refinery (section 1.4). Every change made here is written to the audit log with your name.

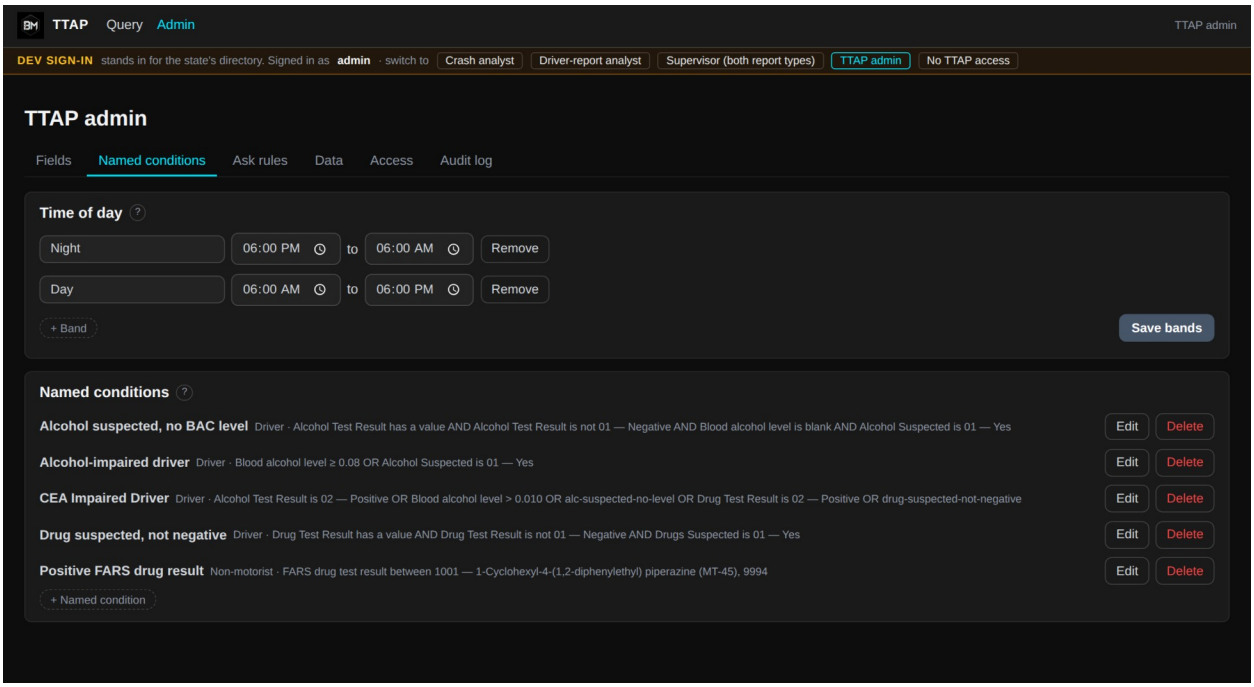
8.1 Fields



Fields: which fields analysts are offered, and what they are called

- The list is every field the state system sends, in groups. Click a group to open it; **Find a field** searches all of them.
- Tick **Officer** and/or **Driver** to offer a field to analysts searching that report type. A field that is not ticked is not offered anywhere - not in filters, not in Group by, not in a report.
- **Shown as** renames a field on the analyst screen.
- **New fields arrive unticked** and are marked **new**, so nothing is offered until you decide.
- TTAP's own When fields (day, time of day, month ...) are always offered.
- Press **Save changes** when done.

8.2 Named conditions and Time of day



Named conditions tab: the Time of day bands, and the agency's named conditions

Time of day

Each crash's **Time of day** is the band its clock time falls in. A band may run past midnight (Night = 18:00 to 06:00). Add, rename or remove bands and press **Save bands**; every stored crash is re-worked at once. Day of week is not affected - it is always the calendar day.

Named conditions

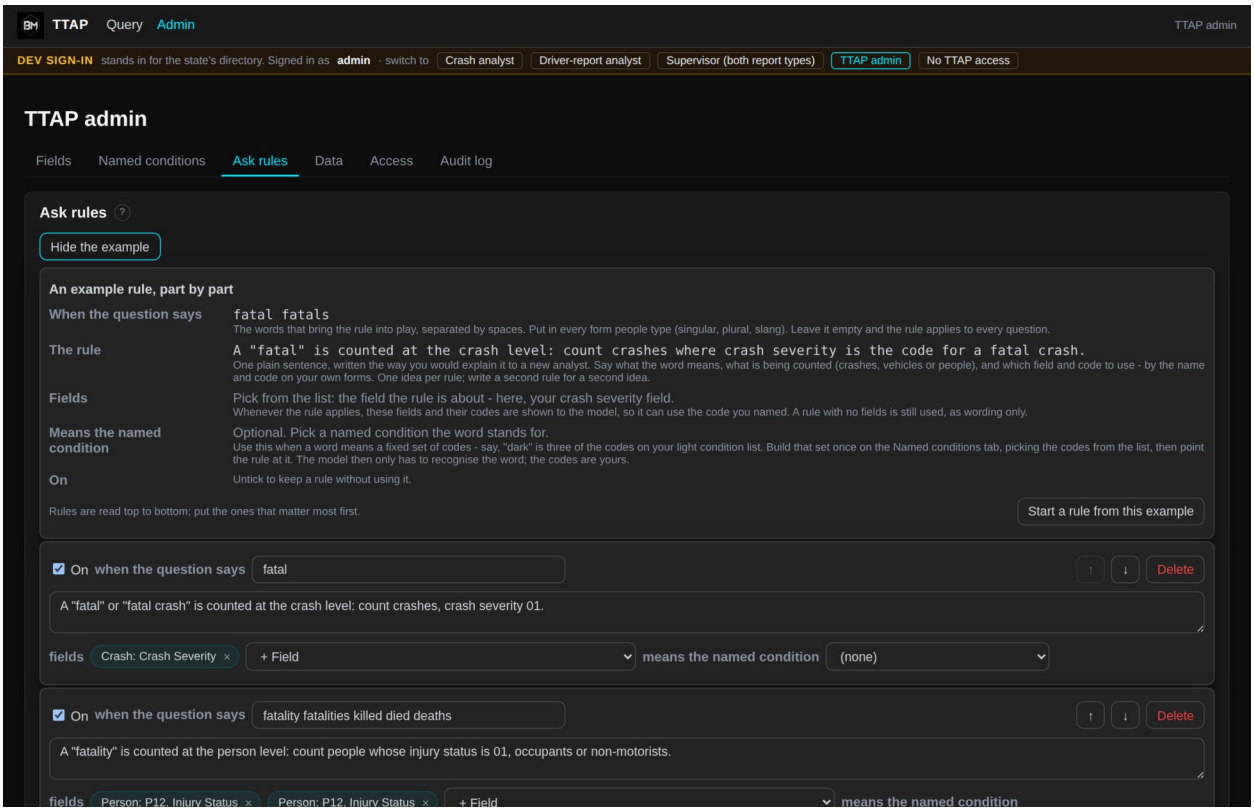
A named condition is a term your agency defines once, for one part of the crash (the crash itself, a vehicle, a driver ...). Analysts then pick it like a field.

1. Press **+ Named condition** and give it a name.
2. Choose what it **applies to** - the Crash, or one of the parts.
3. Choose **any** (true when any of its conditions is) or **all** (only when every one is).
4. Add the conditions, picking fields and values from the lists exactly as an analyst does.
5. Add a description analysts will see, if you like, and press **Save**.

> **Tip:** Use a named condition whenever a word means a fixed set of codes - "dark" as three of the codes on your light condition list, say. Analysts pick the term, and everyone gets the same codes.

8.3 Ask rules

The **Ask box** (section 3.10) lets a person type a question in plain words; a model that runs on the state's own equipment fills in the query, and the person checks it and presses Run. The model never runs a query itself. **Ask rules** are the plain-language rules that model is given, so that a word means the same thing every time.

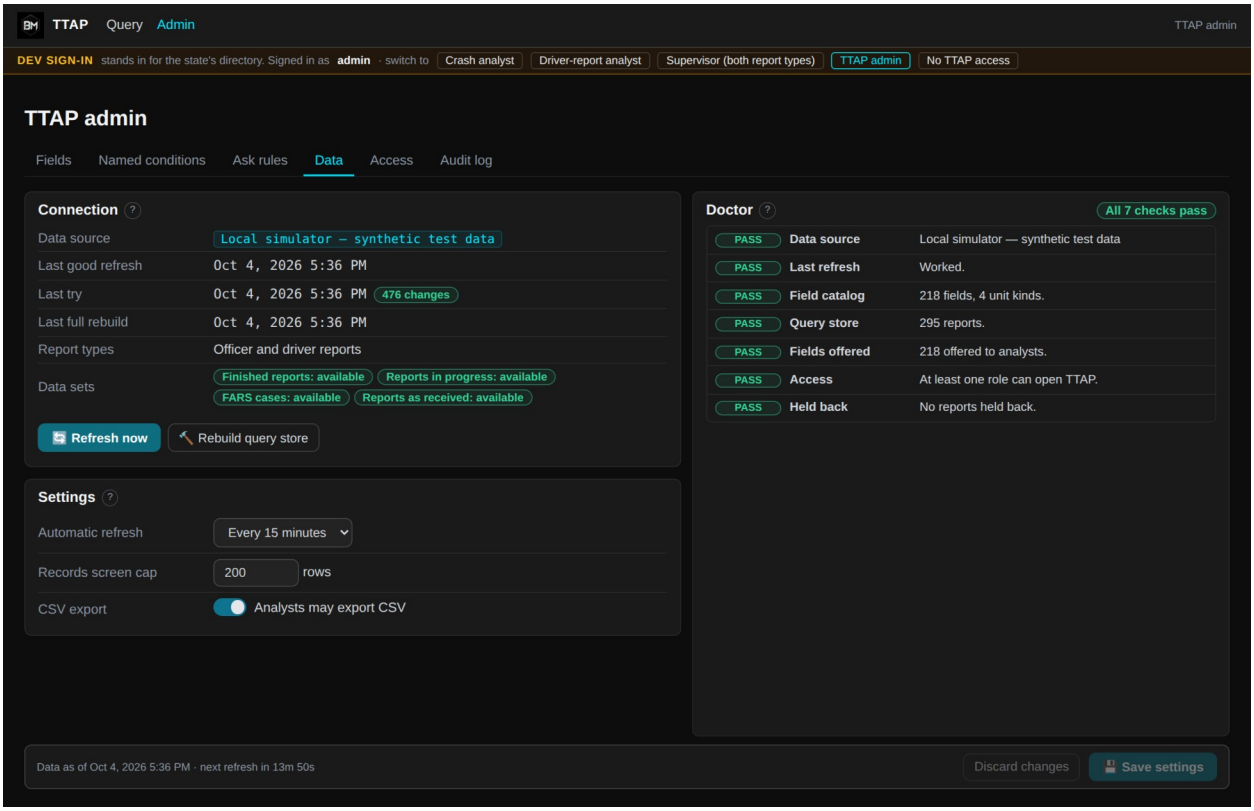


Ask rules, with the example opened

Part of a rule	What to put
On	Untick to keep a rule without using it.
When the question says	The words that bring the rule into play, separated by spaces. Put in every form people type. Leave it empty and the rule applies to every question.
The rule	One plain sentence, written the way you would explain it to a new analyst: what the word means, what is counted, and which field and code to use. One idea per rule.
Fields	The fields the rule is about. They are offered to the model whenever the rule applies.
Means the named condition	Optional. A named condition the word stands for (section 8.2). Use it when a word means a fixed set of codes: the model then only has to recognise the word, and the codes are yours.

- **Show an example rule** opens a worked example, part by part. **Start a rule from this example** adds it to your list to finish with your own field and code.
- **+ Rule** adds an empty one. The arrows move a rule up or down; rules are read top to bottom.
- Press **Save rules** when done. A new install starts with no rules - they are yours to write.
- **Fields a rule names in several parts of the crash** - an injury status for occupants and for non-motorists, say - are offered together, and choosing them fills in boxes joined by **or**.
- **A word that means a fixed set of codes** ("dark") is best pointed at a named condition: the codes are then added exactly as you defined them, not chosen by the model.

8.4 Data



Data: the connection and settings on the left, the Doctor's checks on the right

Connection

- **Data source**, **Last good refresh**, **Last try** and **Last full rebuild** say where the data comes from and how fresh it is. Last try also says how many changes came in, or why it failed.
- **New fields** appears when fields have arrived since the last rebuild; hover to see which.
- **Report types** and **Data sets** say what your state has set up, and whether each data set is available.
- **Refresh now** pulls what changed since the last refresh.
- **Rebuild query store** throws TTAP's copy away and pulls every report again. It is never needed day to day - use it when a new field has arrived and older reports need its values.

Settings

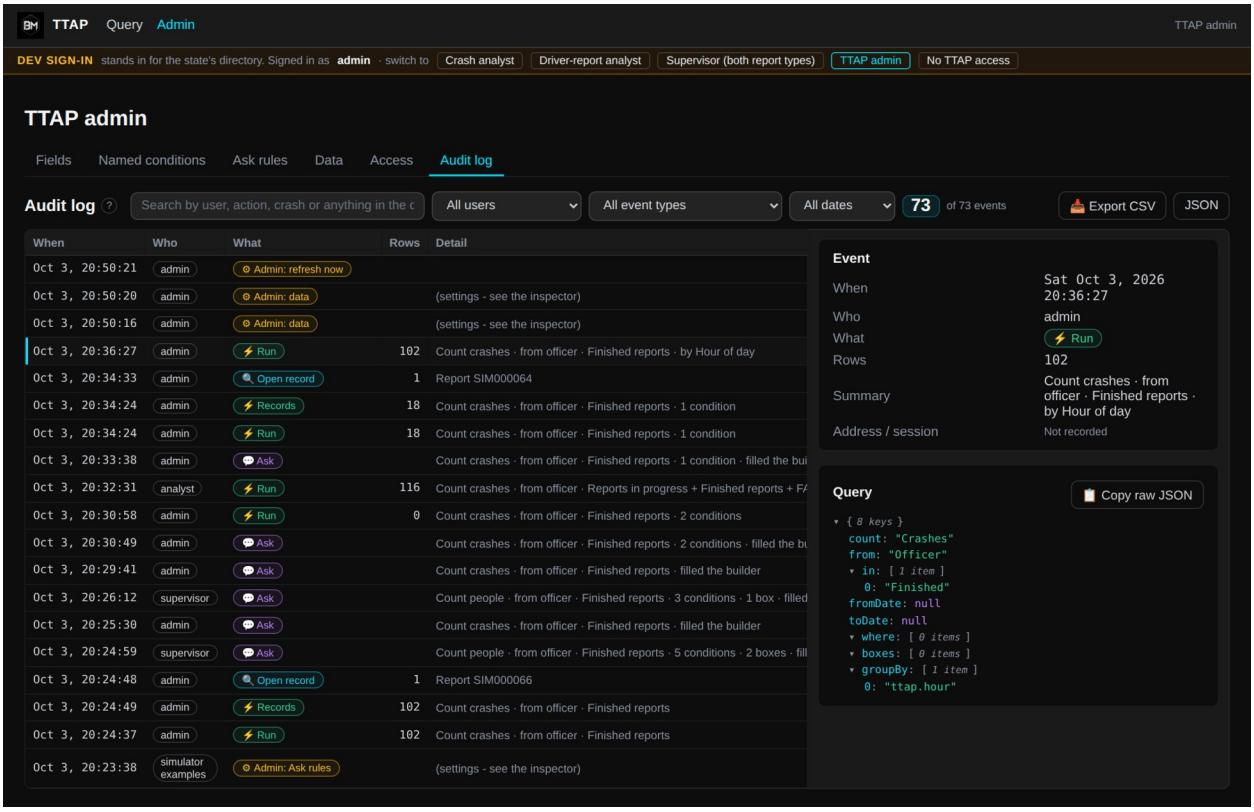
- **Automatic refresh** - every 5 minutes, every 15 minutes, every hour, or nightly at a time you choose.
- **Records screen cap** - the most rows the Records tab shows, 10 to 5,000 (the CSV always carries them all).
- **CSV export** - whether analysts may export.
- **Open by address** (shown when TTAP is connected to a Refinery) - **Yes**: people with TTAP access may open TTAP straight from its own address, such as a bookmark. **No**: the only way in is the TTAP link in the Refinery. A TTAP administrator on Windows sign-in can always open TTAP directly, to turn this back.

Nothing in Settings changes until you press **Save settings** in the bar along the bottom; **Discard changes** puts them back. The same bar says how fresh the data is and how long until the next refresh.

Doctor

A list of checks, each marked **PASS** or **CHECK**: the data source, the last refresh, the field catalog, how many reports are stored, how many fields are offered, access, and whether any reports are being held back. The badge at the top says whether all of them pass. Start here when something looks wrong.

8.5 Audit log



Audit log: the events on the left, everything recorded about the chosen one on the right

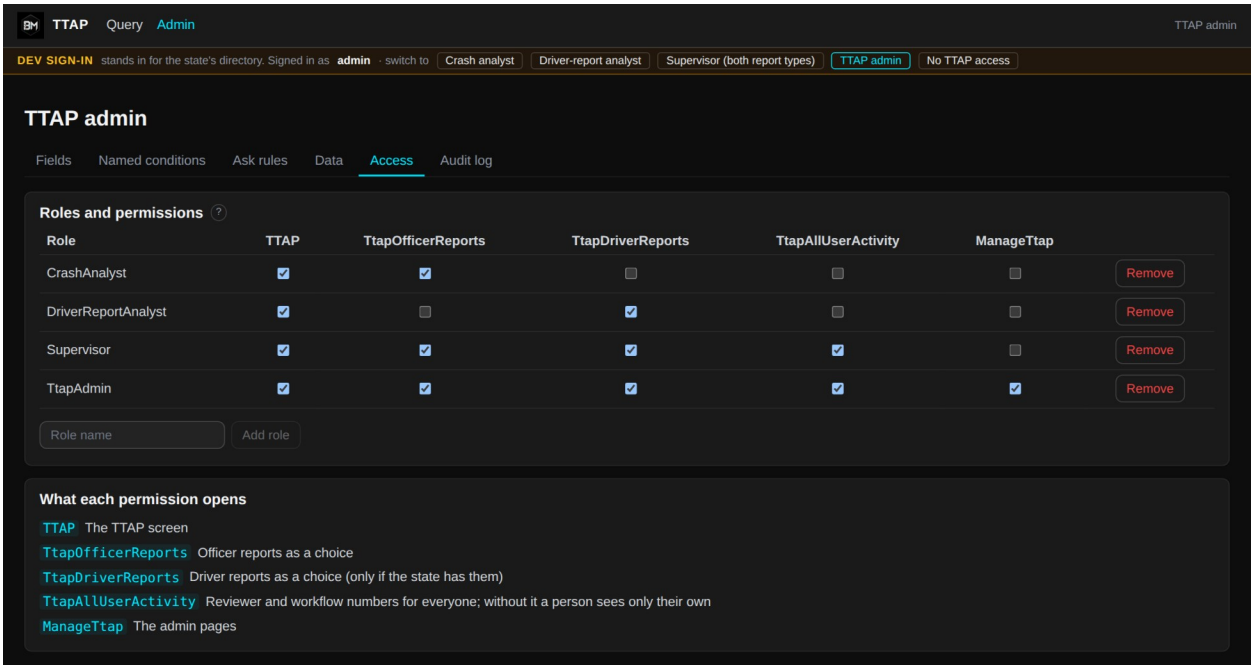
TTAP records every query run, record list opened, report opened, export, use of the Ask box and admin change: when, who, what, the query, and how many rows.

- **Search** finds events by user, action, crash or anything in the query. The three lists beside it narrow by **user**, **event type** and **date**. The number says how many events are showing.
- **Click an event** to see everything recorded about it on the right. A stored query is shown as a tree you can open and close; **Copy raw JSON** copies it.
- **Export CSV** and **JSON** save the events the filters show. Exporting the audit log is itself recorded.
- The screen shows the latest 2,000 events. TTAP never deletes from the audit log.
- What you type into the Ask box is **not** recorded - only that the box was used and the query it filled in. The address a person came from is not recorded either.

8.6 Access

On a live system there is no Access tab. Who may open TTAP, who may see each report type and who is a TTAP administrator are all set in the Refinery, on its Access Administration screen, and the Refinery's switch for TTAP is in its System Settings (section 1.4). TTAP only asks.

On a test system or in the online demo there is no Refinery to ask, so TTAP keeps a small role list of its own and the tab appears:



Access, on a test system only: which test role holds which permission

Each row is a role; each column a permission, shown by its system name. Tick the permissions a role should hold. At least one role must keep ManageTtap, so the admin pages can never be locked out.

9. Quick reference

9.1 Labels you'll see

Label	Where	Meaning
Simulator	Beside Query Studio	Test data from the built-in simulator, not real crashes.
counted	On a box	The vehicles or people in this box are the ones being counted.
and / OR	In front of a box	Whether this box is required as well as the one above, or instead of it. Click to switch.
(any vehicle)	In an empty box	The crash must have one; nothing more is asked of it.
Includes driver reports	Results bar	The result includes driver reports.
Officer report / Driver report	Records	Which report type the row is.
this row	An opened report	The vehicle or person the row was about.
shared	My queries	You have shared this query with everyone.
new	Admin, Fields	A field that arrived since you last saved the field list.
PASS / CHECK	Admin, Data, Doctor	The result of each check.
Dev sign-in	Strip under the top bar	A test system: the buttons switch between test people.
Sample data	Strip under the top bar	The online demo: every crash is made up.

9.2 Messages

Message	What to do
No access, with a line saying why	Access is set in the Refinery. Section 2.1 lists each reason and what to do.
"That link has expired" / "Open TTAP from the Refinery"	Open TTAP from the TTAP link in the Refinery (section 2.1).
"Not in the demo ..."	The online demo does not allow changes to the data every visitor shares.
No data yet - "TTAP isn't connected to the Refinery ..."	Your administrator connects it in TTAP's settings.
No data yet - "TTAP hasn't finished its first sync yet."	Wait a moment and press **Check again**.
"Define query parameters or select a grouping above to render analytics."	Nothing has been run yet. Build a query and press Run query.
"... not broken down. Choose a Group by and run again for a table of counts - or open Records to see each one."	The query ran. Add a Group by for a table, or open Records.
"A chart needs something to compare."	Choose a Group by and run again.

Message	What to do
"Nothing matched, so there is nothing to chart."	The query found nothing. Loosen a filter, or check the dates and the data set.
"Nothing recorded in the fields you can see."	That part of the report has no values in the fields offered to you.
A red bar under the buttons after Run query	The query is incomplete or does not make sense; the bar says what to fix.
"Couldn't turn that into a query: ..." (Ask box)	The question isn't about crash data, or asks for something TTAP doesn't have. Reword it, or build the query yourself.
"Type a question about crashes, in words." (Ask box)	The box was empty or held no real words.
"The model took too long to answer." / "The model is busy" (Ask box)	Try again in a moment, or build the query yourself.

9.3 Glossary

Term	Meaning
TTAP	Traffic & Transportation Analysis Probing.
Query	A question, built on screen as one sentence.
Filter / condition	One test a crash, vehicle or person must pass - a field, how it must match, and the values.
Box	A vehicle, driver, occupant or non-motorist the crash must have, with its own conditions. All conditions in a box are about the same one.
Named condition	A term the agency has defined once, picked like a field.
Group by	The field the count is broken down by.
Data set	One body of reports: as received, in progress, finished, or FARS cases.
Fatal	Counted at the crash level: a fatal crash.
Fatality	Counted at the person level: a person killed.
Officer report / Driver report	The two report types. Officer reports are the usual choice.
Refresh	TTAP pulling what changed from the state's crash system.
Rebuild	TTAP throwing its copy away and pulling every report again.
One-time pass	What the Refinery hands TTAP when you click its TTAP link: it says who you are, works once, and lasts about a minute.
The Refinery	The state's crash intake system, the system of record.