

Railroad Signal System Failure

**A Case for
Automation (?)**



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- Credits: Train20atRIO.mp4 video clip in public domain

Presentation Objectives



This is currently an introduction to the *Simplified Signaling for Modelers* presentation.

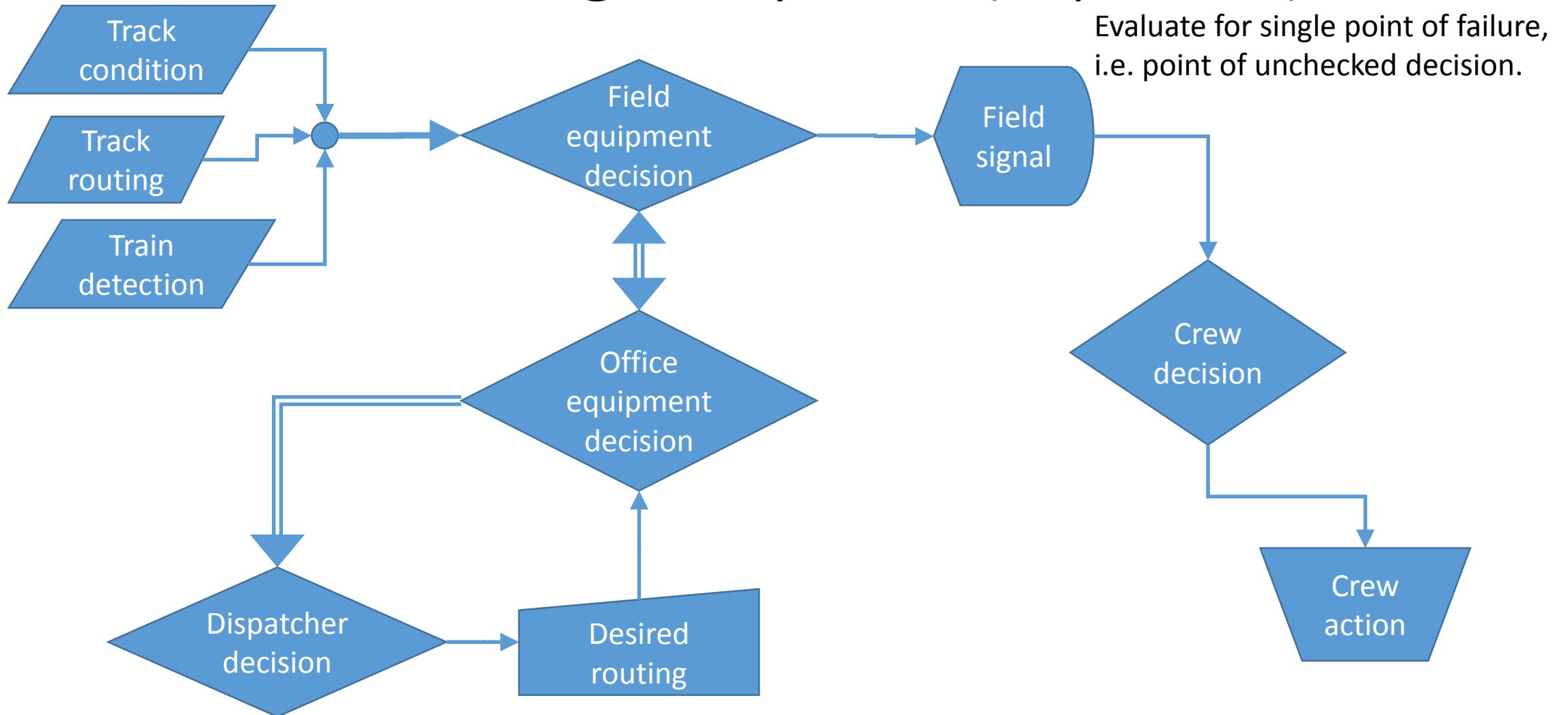
Generic Definition of “System”

1. A group of related parts that move or work together.
2. A regularly interacting or interdependent group of items forming a unified whole; as
 - a) A group of devices or artificial objects or an organization forming a network especially for distributing something or serving a common purpose.
3. A group of interacting, interrelated, or interdependent elements forming a complex whole.

Note: Humans can be parts of a system.

Processing can be distributed among elements.

Railroad Signal System (top-level)



Case Study

- Amtrak 20 “Crescent” running between Atlanta and Washington.
- Host railroad is Norfolk Southern.
- Train telemetry is not publicly available, e.g. date, location, speed.

Ah – A fine day for a land cruise.



- Nice sunny day.
- Good double-track mainline.

Clear sailing and a bridge for interest.



Why is there always a curve in these stories?



We have a rolling meet.



- Freight approaching us dims its headlight in response.

Is that a signal bridge ahead?



- We cannot read signal aspect in this video.
- We assume Amtrak 20 crew did.

What do you mean we go to single track?



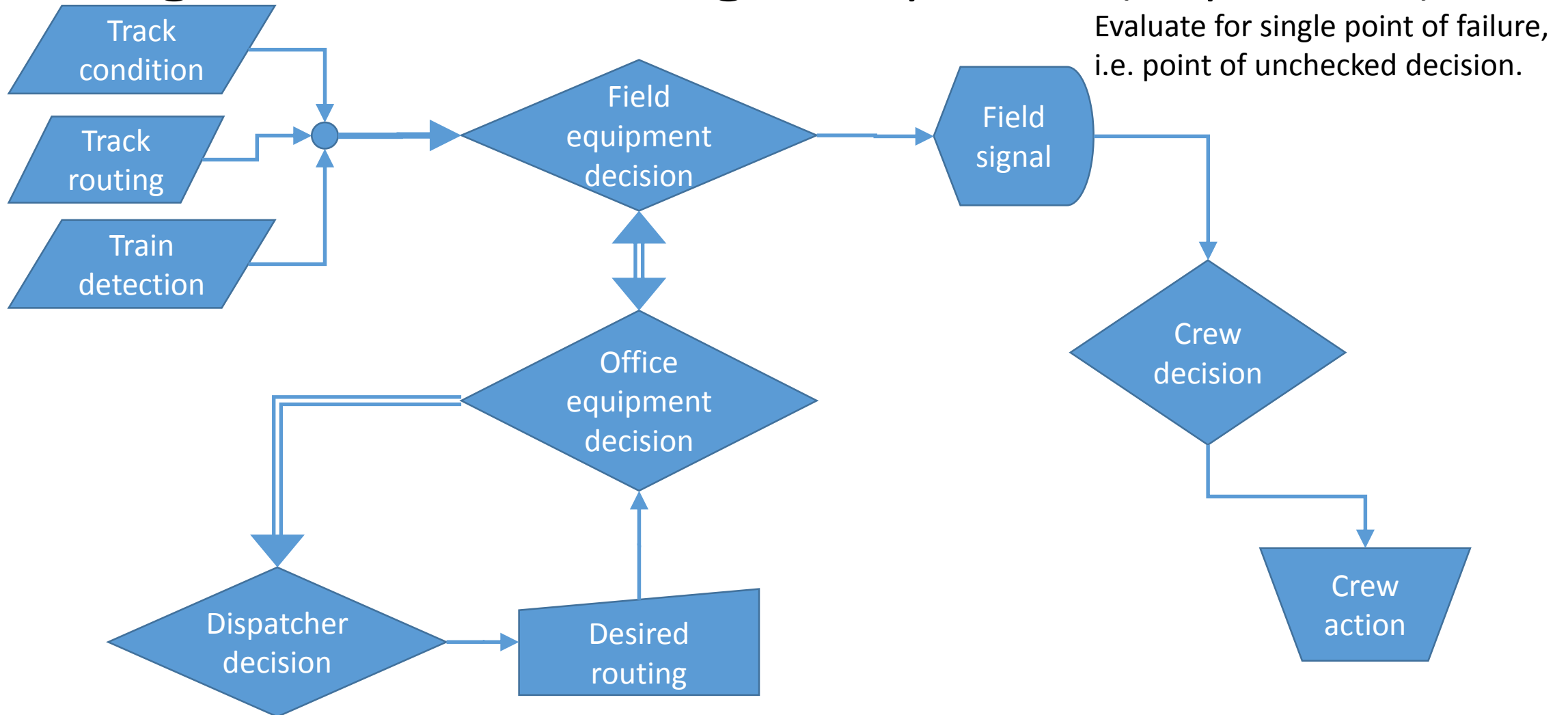
•Panic!

Whew! That was close.
After the fact discussion --

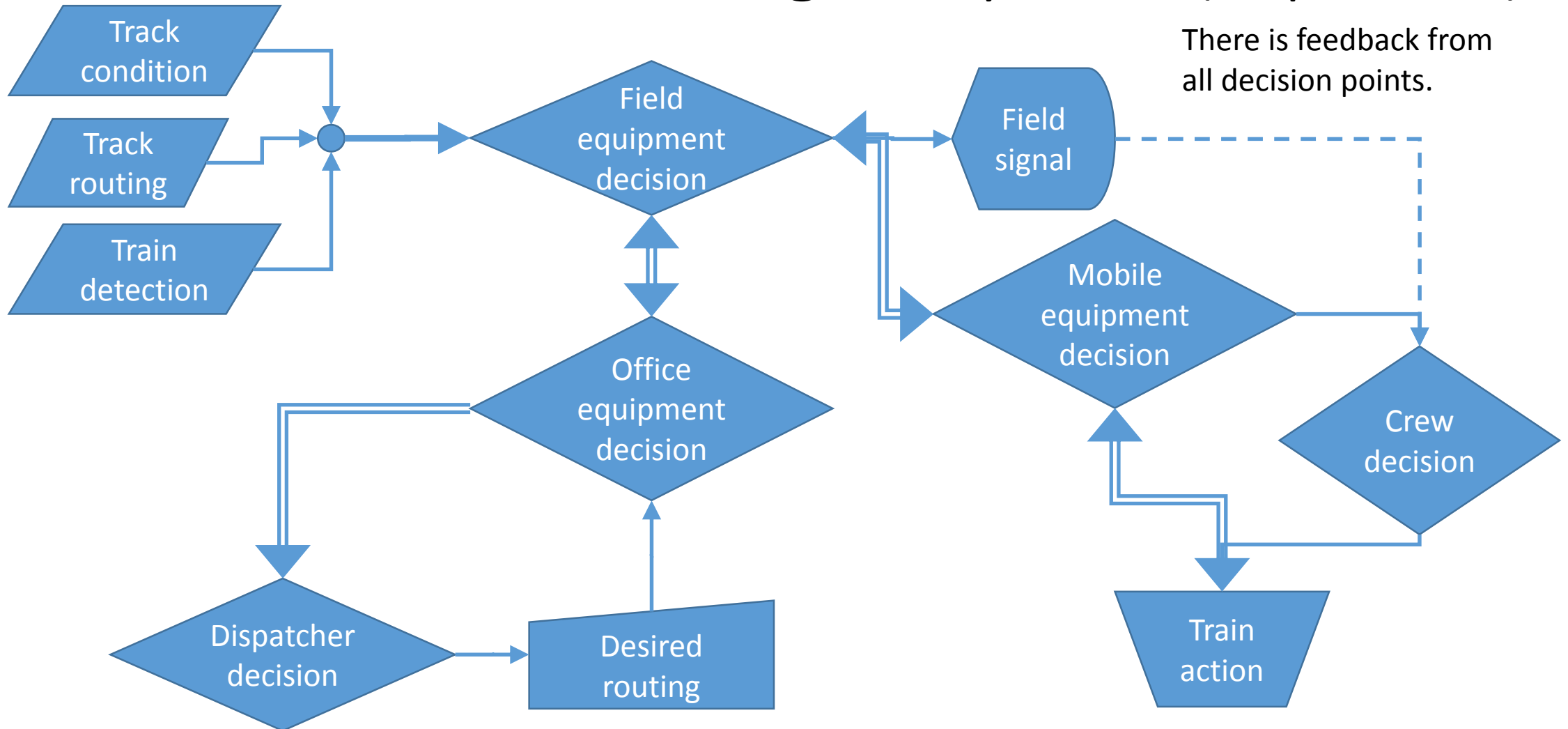


- Approach signal was not viewed in video.
- There was a student engineer assigned to the train.
- It was not revealed who was operating the locomotive.
- Conclusion: Operator not paying attention.
- Signal system failure at point of unchecked decision making.

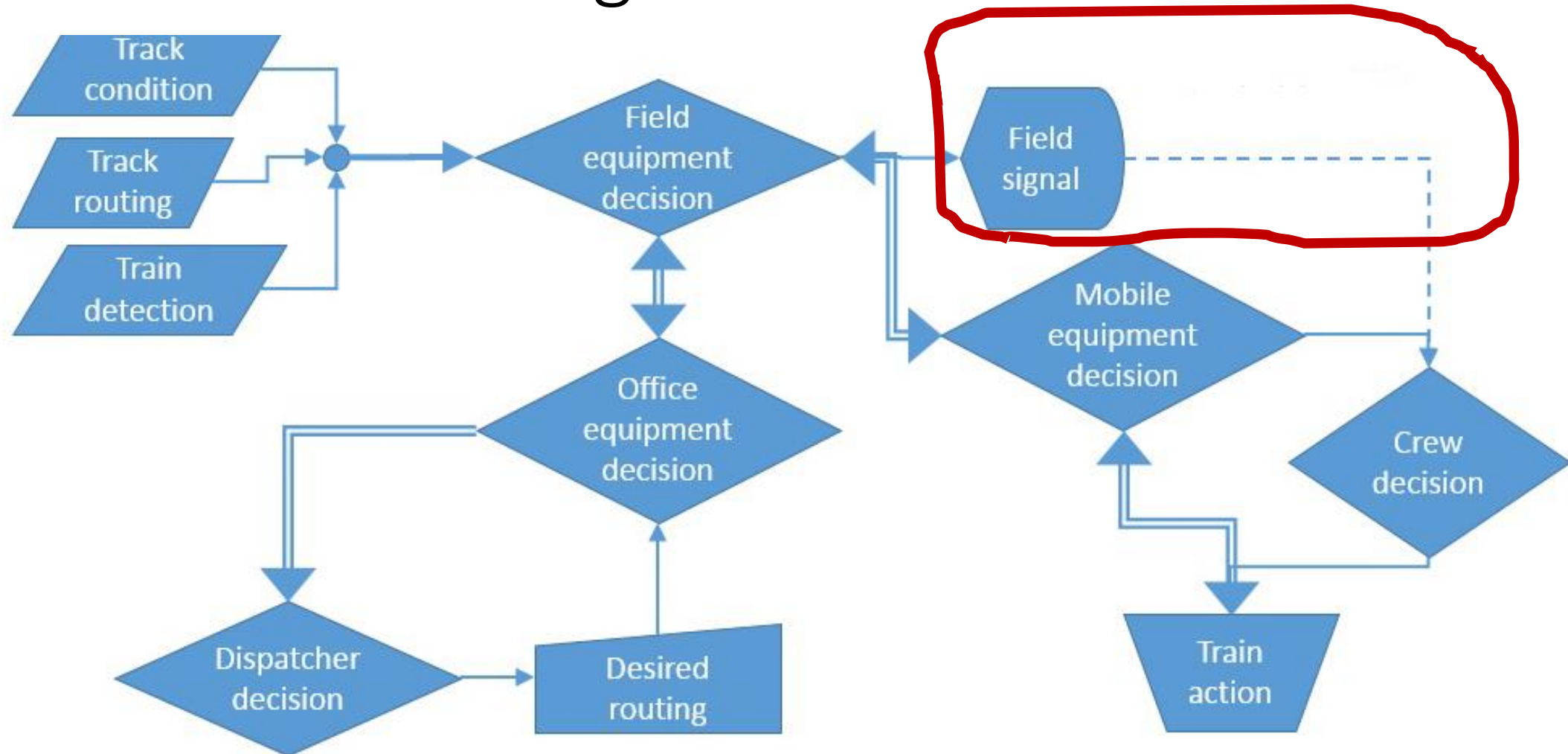
Again -- Railroad Signal System (top-level)



Automated Railroad Signal System (top-level)



Consider: With automated system, do Field Signals become obsolete?



Moral of this story --

- Human response is very much a part of the current signal system.
- Lack of human response has caused much concern about the effectiveness of the system.
- Automated signal system(s) seem to be the way of the future.
- That Field Signal infrastructure might be a victim of the change.
- Enjoy signals while you can.

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- If you wish to have the video version of this presentation, please contact us through the Library web page.

