Changing the wheels while the bus rolls on

- Introduction
    - Archives are not new to ESPN – since on-air date in 1979, we have been building an established video tape library.
    - As part of transition to digital nonlinear workflow, we included "Archive" as an integral process
    - Understanding this workflow is important – and to do so, we must understand the core strategy used to develop it
- Core digital production strategy: Any piece of media must be available on any production platform whenever it is needed.
    - This strategy affects our entire digital production workflow, and informs the design of each component – including Archive.
- ESPN's digital news production workflow – Affectionately referred to as **6 Easy Pieces**
    - Each step relates to those that follow -
    - 1st Easy Piece: Scheduling
        - Sports is easy
        - Initial metadata is known in advance – date/time, sport, teams, location
        - Input into 'event calendar' as authoritative source
    - 2nd Easy Piece: Ingest
        - Creation of digital asset
            - In day-of-air systems [Quantel/Avid/EVS] for immediate news production needs
            - In archive-centric system in native format [AS-IS]
            - Reference database for media existing across systems
        - From tape archives?
    - 3rd Easy Piece: Screen/Index
        - SPORTS IS EASY – structured data
        - Two sources of data
            - Highlight Screening – 64 seats with Production Assistants watching games, annotating as needed to tell story of game
            - Data feeds are associated using time-of-day:
                - Real-time scoreboard feed (when score/clock changes)
                - Other real-time data sources
        - Detailed indexing helps producers tell the story without even looking through source material.
        - Example visualization of database index
    - 4th Easy Piece: Edit

        - Creates material that will need to be archived [Features, highlights]
        - Will utilize archived content for retrospective and documentary pieces
    - 5th Easy Piece: Playout
        - Retrieve content from archive for play-to-air
        - Create linear videotape copies of our material
    - 6th Easy Piece: Archive
        - Long-term storage and retrieval of original content
        - Diverse Locations
        - High Quality
        - Content can be in a variety of formats – we will store in its native format
        - Easily accessible by end-users
    - Note that although shown as linear, clearly pieces feed back in to the process.
- Any media, anywhere, from standard formats:
    - What does this mean to us:
        - We've learned quite a bit from our existing video tape library and have brought this forward to the design of our digital archive.
        - Architecture for transporting media (it's all files) between various systems (Day-of-air servers, and archive)
        - Method of transcoding to bring to our production systems
        - Large volume of content – 200 hours/day (40% HD); 270,000 tapes added last year
        - Average of 4,379 (linear) VTL requests per day
        - 100 mb/sec video is 44 GB/hour – 9.1 hours per LTO3
        - 40 mb/sec video is 18 GB/hour – 22 hours per LTO3
        - AS-IS HD – 25Mb/sec 9GB/hour – 44 hours per LTO3
        - AS-IS SD – 6.5 Mb/sec is 3 GB/hour is 133 hours per LTO3
        - Savings in cost, media, storage
    - Design of archive system
        - Discuss overall architecture with day-of-air system / landing zone
        - Discuss future systems
        - "Spaghetti of interconnections – avoid"
        - Drawing - (Include future AS-IS/Transcode, and remote sites)
    - Archive Fundamentals
        - We will archive everything – we don't always know what we will need
        - Very little of what we archive will ever be restored – less than 1% [graphic representation

- We will restore as needed, only the portions required. Transcode small sections of full recordings. [Do the work on the back end]