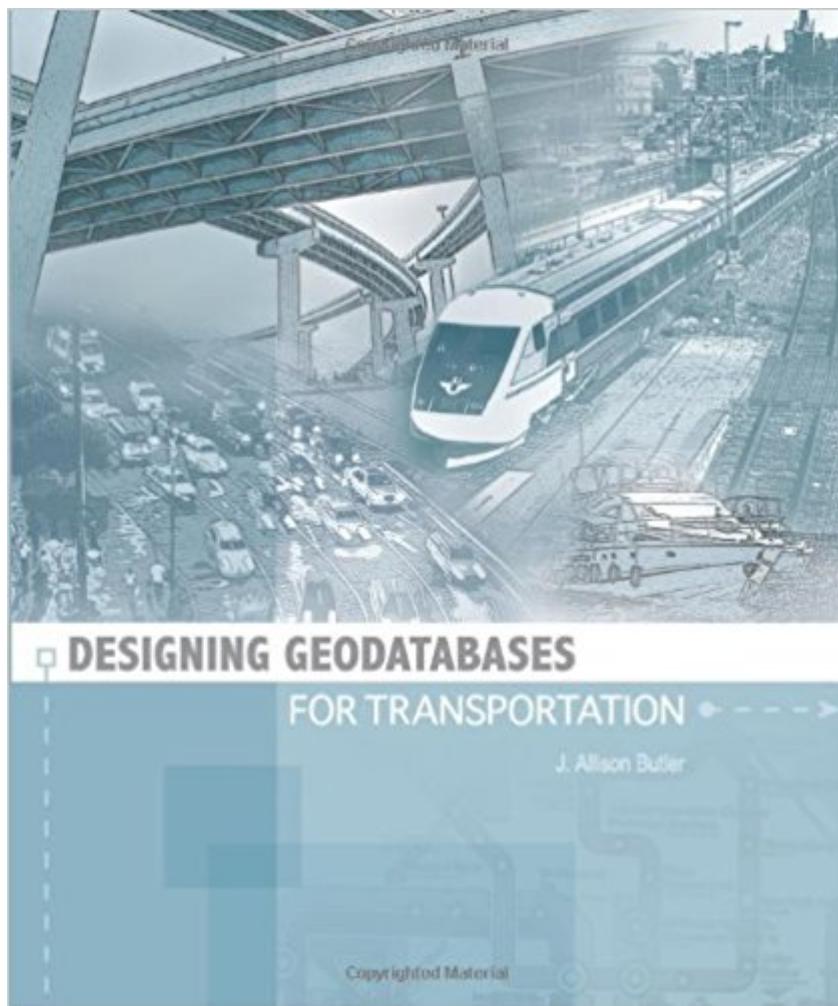


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Designing Geodatabases For Transportation



Synopsis

Designing Geodatabases for Transportation addresses the development of a GIS to manage data relating to the transportation facilities and service commonly organized around various modes of travel for accurate and reliable data exchange. Transportation involves several modes of travel, and although the details of each mode can be quite different, this book demonstrates how all follow a basic conceptual structure. That structure consists of an origin, a destination, a path between the two, and a conveyance that provides the ability to move along the path to establish a common data structure.

Book Information

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Customer Reviews

J. Allison Butler has worked for many local, regional, and state transportation agencies during his 30-year career. A prolific writer in his area of expertise, Butler has been a consistent innovator in such fields as spatial database design, traffic engineering, planning policy, and economic development. He was a key participant in developing the GIS Certification Institute (GISCI) certification program. He is a co developer with Dr. Kenneth J. Dueker of the GIS-T Enterprise Data Model. Mr. Butler is a frequent conference speaker and workshop instructor on a number of topics including highway safety, geodatabase design, agency management, and land-use planning. He received his Bachelor of Science degree in electrical engineering from Northeastern University in Boston, Massachusetts, and his Master of Science degree in electric power engineering from

Rensselaer Polytechnic Institute in Troy, New York.

The book proved beneficial for anyone interested in learning about how transportation-related GIS data can be structured. It covers general fundamentals about GIS data management, from relational database techniques, database design, and provides great examples that other books covering the same material may not describe as well. This book encouraged me to take a look at how I manage my GIS data and guided me on how to improve on data management. Overall, it's a good book to have, a good resource for GIS transportation planners, GIS Managers, Modelers, or GIS practitioners in general.

I brought this book for my thesis and it was very helpful. I still use the book as on my job as reference. I would recommend if you need assistance developing GIS for transportation.

Books on the geodatabase tend to be oriented toward the introductory side (quite often geared toward teaching basic geodatabase concepts over a 16 week semester) or written at a level that is not attainable to the GIS novice. Designing Geodatabases for Transportation reaches well beyond the introductory level to provide a thorough explanation of the geodatabase, however it also takes the time to create a foundation based on fundamental geodatabase concepts. At 461 pages Designing Geodatabases for Transportation probably shies away from being a weekend read to brush up on the geodatabase before launching into a project, but it is a solid reference for someone looking to trudge through the material prior to setting off on a geodatabase project. The author (J. Allison Butler) breaks the book down into three sections (Basic geodatabase design concepts, Understanding transportation geodatabase design issues, and Enterprise-level solutions and modal data models). While not suited to someone new to GIS, Butler presents a resource that allows those with a comfortable working knowledge of GIS to begin working on applied geodatabase design. Overall, Design Geodatabases for Transportation is laid out in 18 chapters and could be used in an intermediate or advanced level GIS course (although it's important to note that the book does not have tutorials and doesn't come with the almost standard evaluations copy of ESRI software). Designing Geodatabases for Transportation allows the reader to get comfortable with the idea of transportation in GIS. It also allows reader to expand their knowledge in how the geodatabase can be incorporated into their data management plans. Butler takes time to address the incorporation of GIS transportation standards such as the UNETRANS network data model. The book's intense focus on a specialty matter narrows the audience, but by the same token it provides

a level of knowledge that is sometimes hard to come by in GIS books. Rather than focusing on the end products of a GIS (i.e. maps), Butler takes the time to work with the mechanics of transportation data.

The first of its kind, *Designing Geodatabases for Transportation* is likely to remain the best of its kind. Al Butler has violated several "rules" of technical writing:^{*} He has opinions, isn't afraid to express them, and does so in an engaging, conversational style enlivened by war stories and thinking outside the polygon. Most technical texts have no discernible voice and read as dull as dirt (apologies to soil scientists).^{*} He pragmatically and mercifully separates "need to knows" from "nice to knows", steering the reader around minutiae only a true nerd could love; yet retains that deeper content in unobtrusive places. Many technical works overwhelm the reader with information, providing no indication of relative importance.^{*} He manages to make ArcObjects comprehensible to the non or new programmer by providing simplified object model diagrams.^{*} He demystifies the arcana of internal ArcGIS data types, relationship classes, and other poorly explained (elsewhere) geodatabase concepts.^{*} Most importantly, he maps geodatabase structures to their counterparts in relational database theory. The more you understand the relational database foundation of the geodatabase, the better you'll be at designing them--this section alone makes the book worthwhile. If you're a database person adding the Geographic to your Information Systems background, this book will greatly aid your transition. As for the transportation content, it's all there--linear referencing, dynamic segmentation, traffic counts, HPMS, editing and publishing data for State DOTs, network datasets and even geometric networks (typically not used for transportation purposes), the evolution of GIS transportation data models, etc. Finally, and refreshingly, the author takes a one-size-does-*not*-fit-all approach, providing the reader a pick and choose, cookbook-like approach to suit individual need. Still working my way through the book, but nodding my head in agreement more often than usual--a good indication, to me anyway, that the author:^{*} Knows his subject matter^{*} Has a gift for conveying that knowledge clearly to others.^{*} Has been out in the real world, solving real world problems^{*} Understands the business side of the Transportation house. Highly recommended to anyone interested in general geodatabase design, specific geodatabase design (transportation and possibly utility geodatabase design since linear referencing and networks play a role), and transportation GIS. Al Butler was instrumental in helping develop the GIS Professional certification program, and this book is another fine contribution to the GIS profession. We've not only needed this book--we need more books written like it. To my relief, it was and is not YASTMB--Yet Another Show-and-Tell Map Book. It's a practical how-to and reference for doing

your job better. Buy this book and buy copies for Transportation colleagues--they'll be asking to borrow yours, so get ahead of the game.

Any GIS professional and any library catering to general GIS pros and transportation documentation issues needs *Designing Geodatabases for Transportation*, an in-depth survey of data processing transit information. It explores data modeling and other techniques adaptable to changing requirements, shows how to blend data from different sources and how to solve common database design issues, and most importantly - provides specifics linking databases to transportation needs. It's this focus that makes *Designing Geodatabases for Transportation* a pick beyond the usual computer library shelf.

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