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(54) **SPECTRUM YIELD MANAGEMENT IN A WIRELESS COMMUNICATION SYSTEM**

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(58) Field of Search 455/453, 403, 455/512, 405, 408, 422, 466, 446; 379/243, 120

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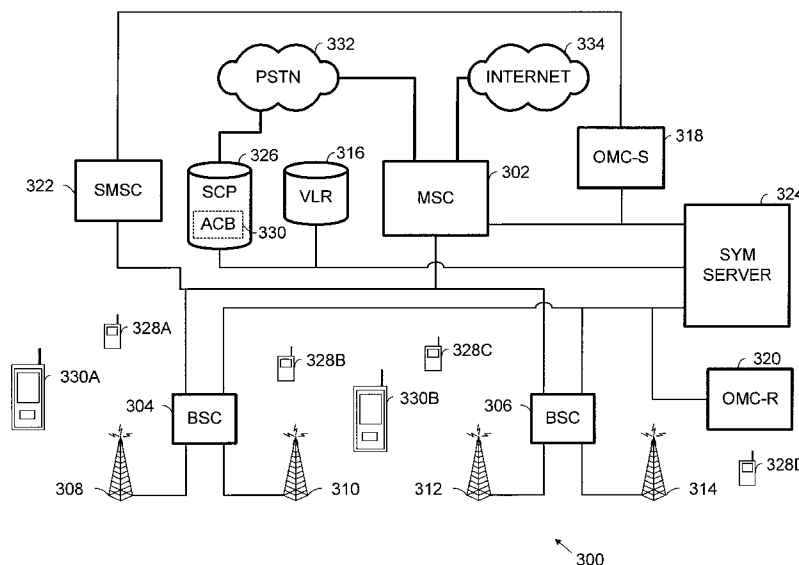
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(57) **ABSTRACT**

A spectrum yield management (SYM) system manages available spectrum within a wireless communication system. The SYM system includes at least one computer and connections within the wireless communication system to other components of the wireless communication system. The SYM system collects real-time and potential loading information for the wireless communication system and receives system operator parameters. The SYM system may support a plurality of classes with each class having subscriber members that receives services commensurate with the class. The SYM system may also support a plurality of corridors within the wireless communication system, with each corridor including at least once cell/sector. The SYM system provides signals to the components of the wireless communication and to subscriber units to influence their operation in a manner that will realize system operator goals with respect to spectrum usage. Examples of such signals include service option signals which provide either an incentive for a subscriber to increase its use or a disincentive for the subscriber to reduce its use. The SYM system may also operate to provide reserved spectrum within the wireless communication system and to perform other functions in managing available spectrum.
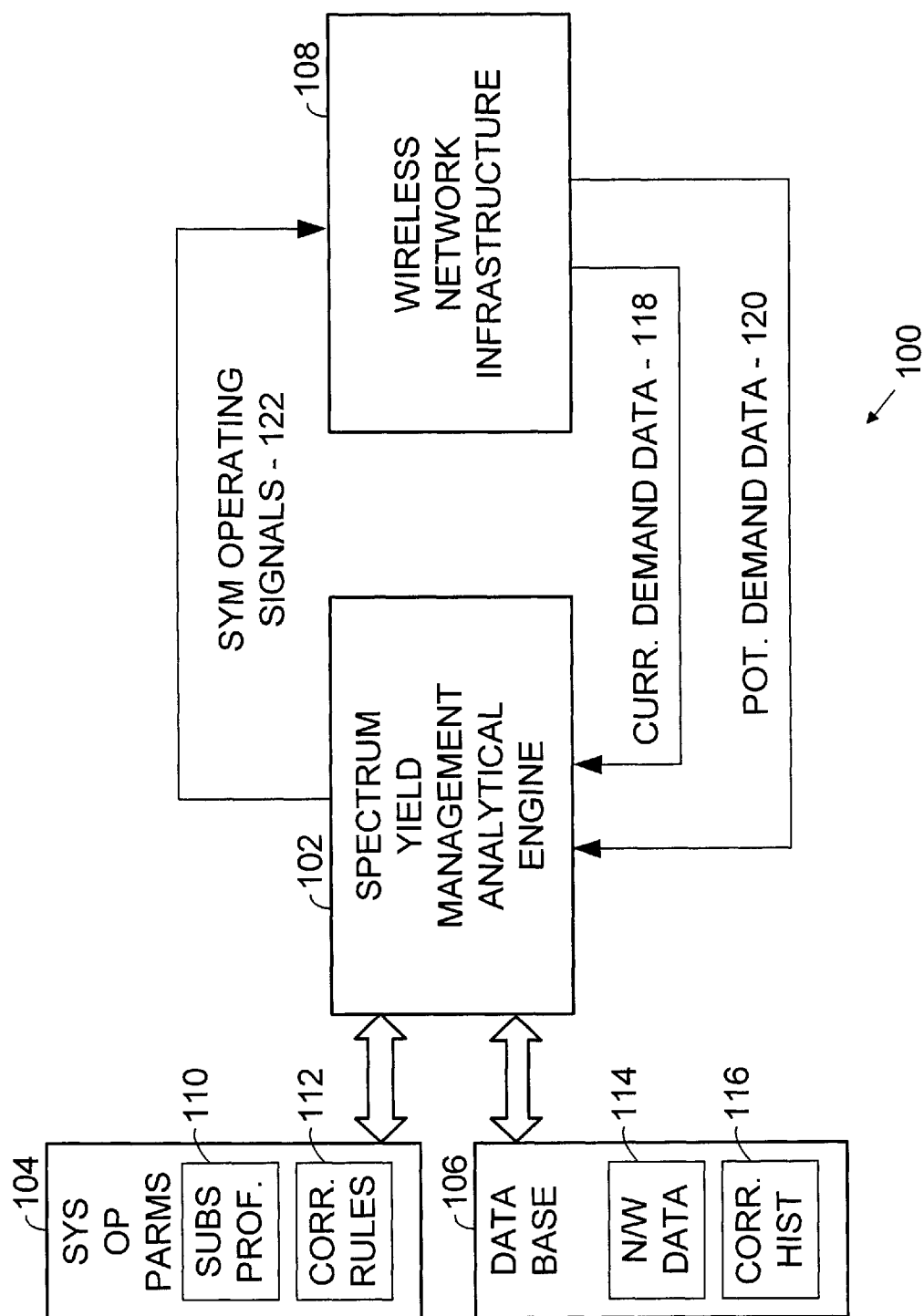
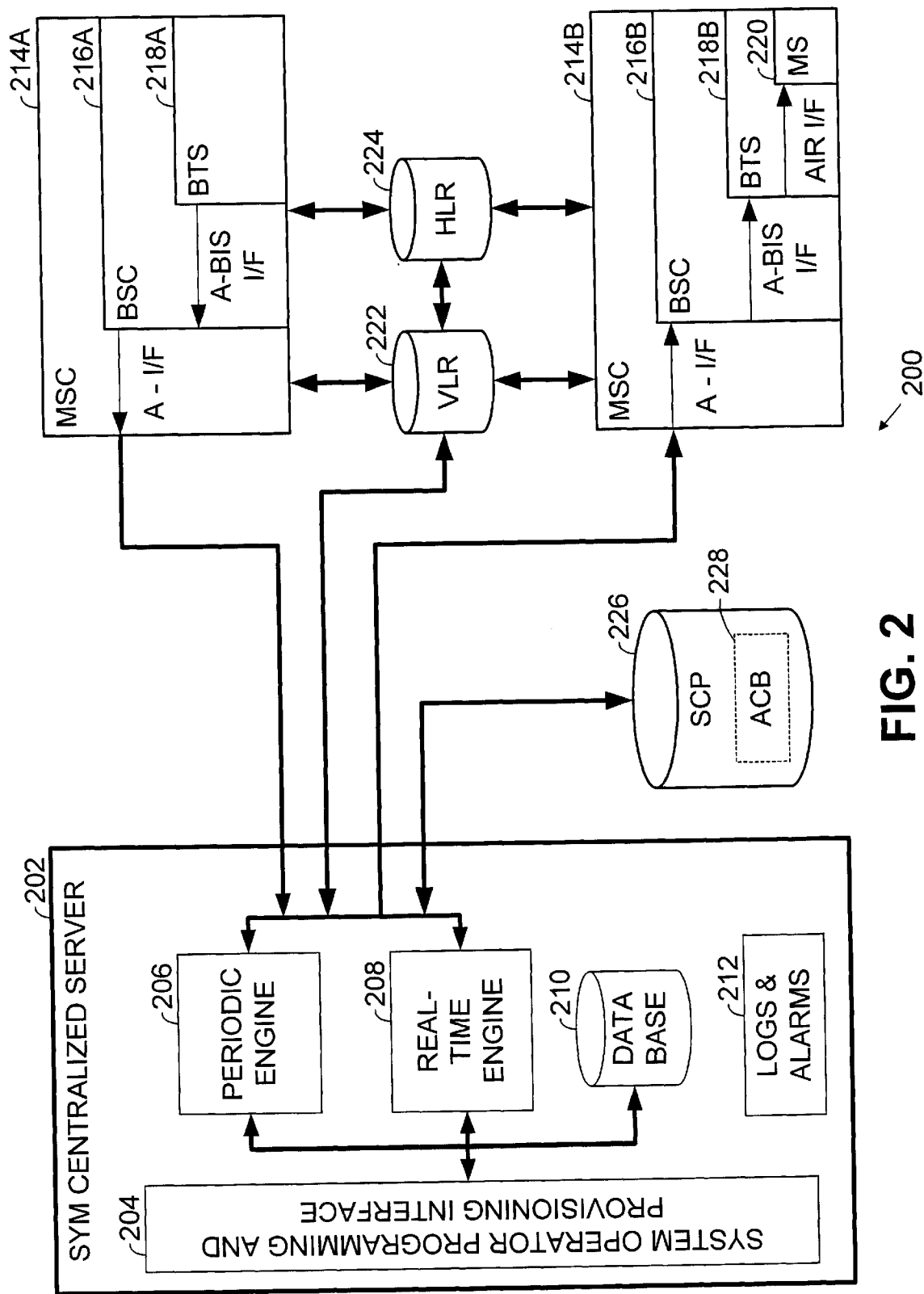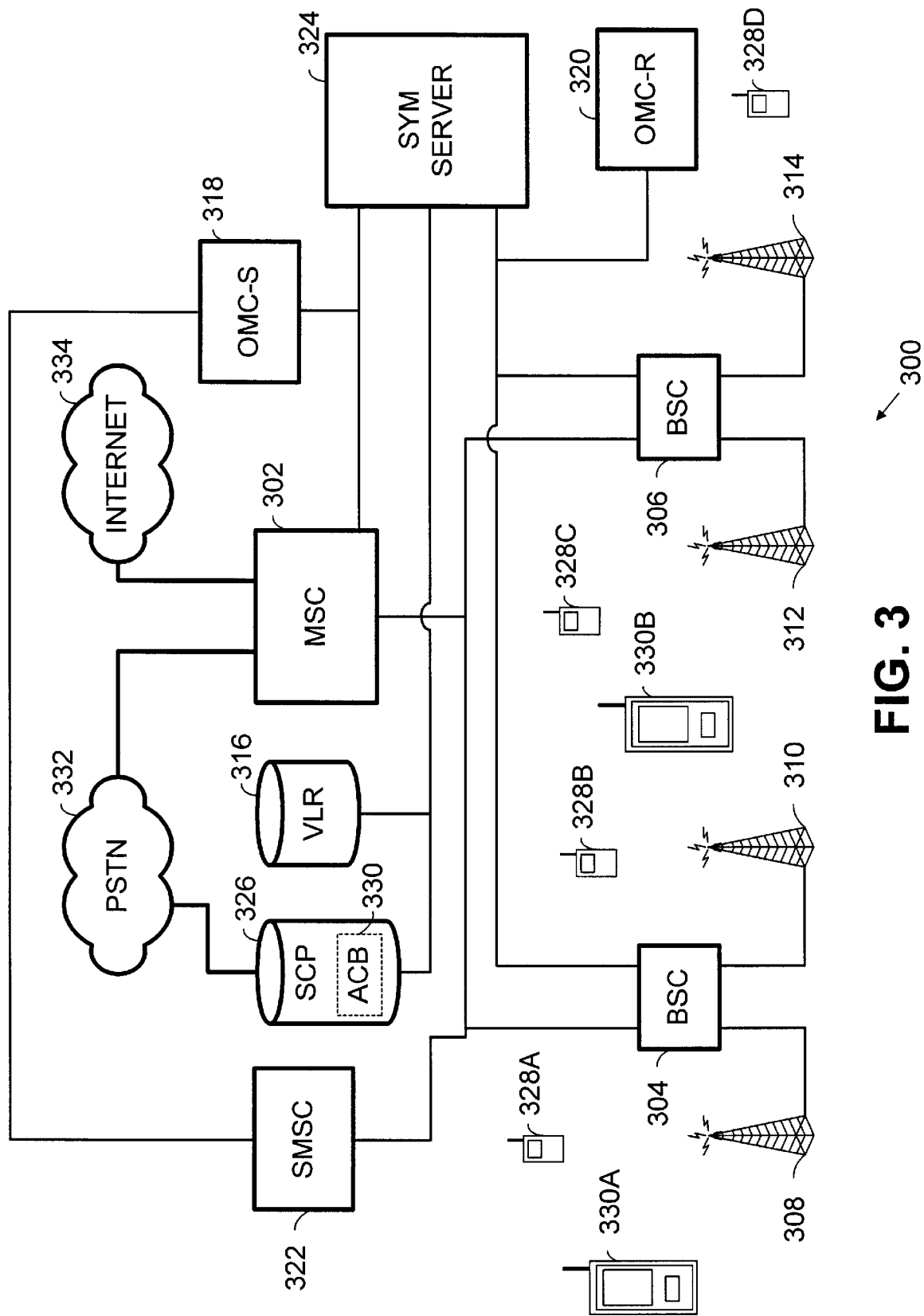**68 Claims, 17 Drawing Sheets**

FIG. 1

FIG. 2

FIG. 3

URBAN CORRIDOR - 404

DENSE URBAN CORRIDOR - 402

COMMUTER CORRIDOR - 408

URBAN CORRIDOR - 406

400

COMMUTER CORRIDOR - 412

SUBURBAN CORRIDOR - 414

COMMUTER CORRIDOR - 410
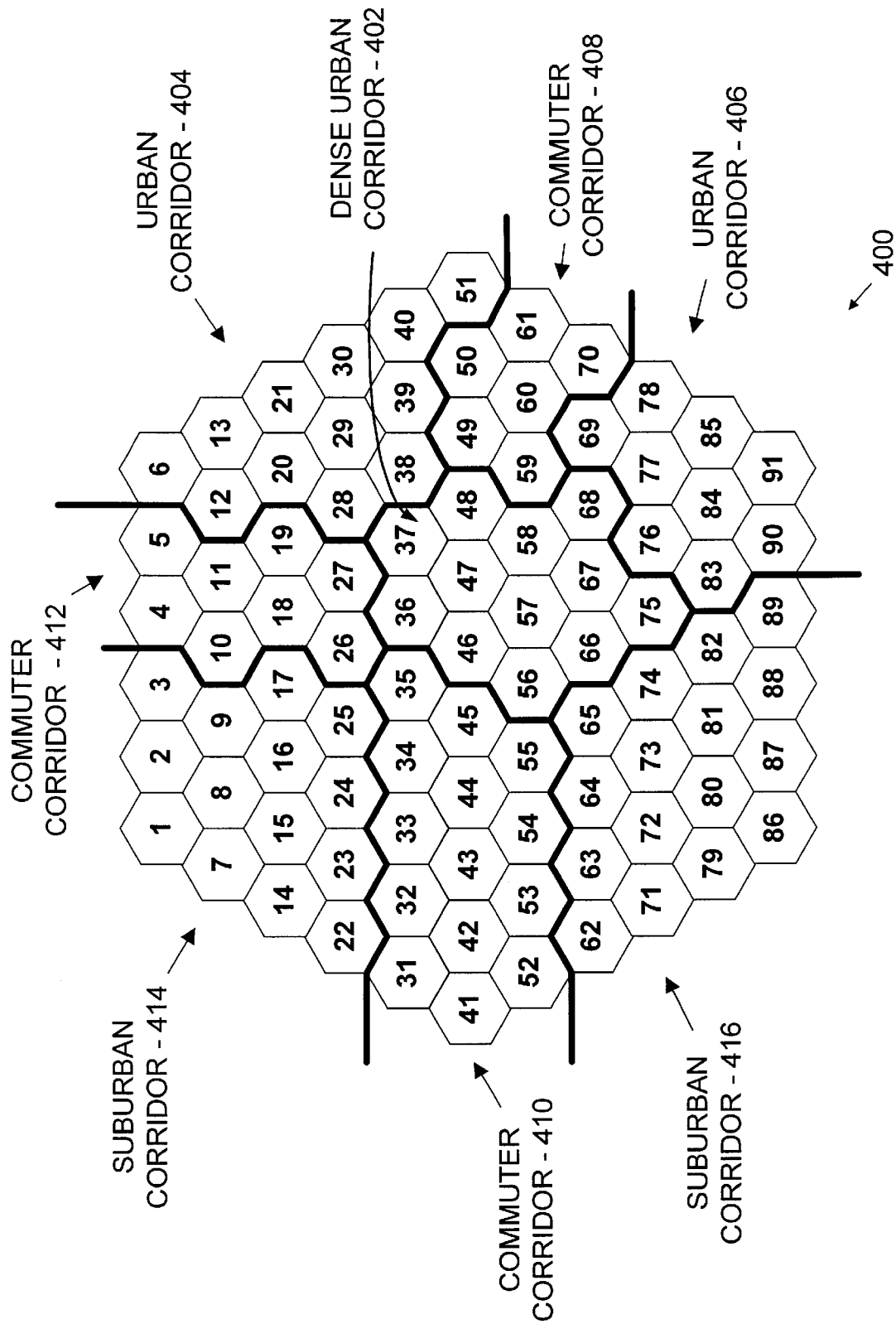
SUBURBAN CORRIDOR - 416

FIG. 4

DOCKET ALARM

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